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It is the aim of the management to run the magazine for the Ranger-class (including Foresters) and mainly by their contribitions. Correspondents are needed to supply suitable matter to maintan the magazine on these lines. We feel confident that this appeal will not go in vain. There must be a number of our readers who have something of interest to write on.

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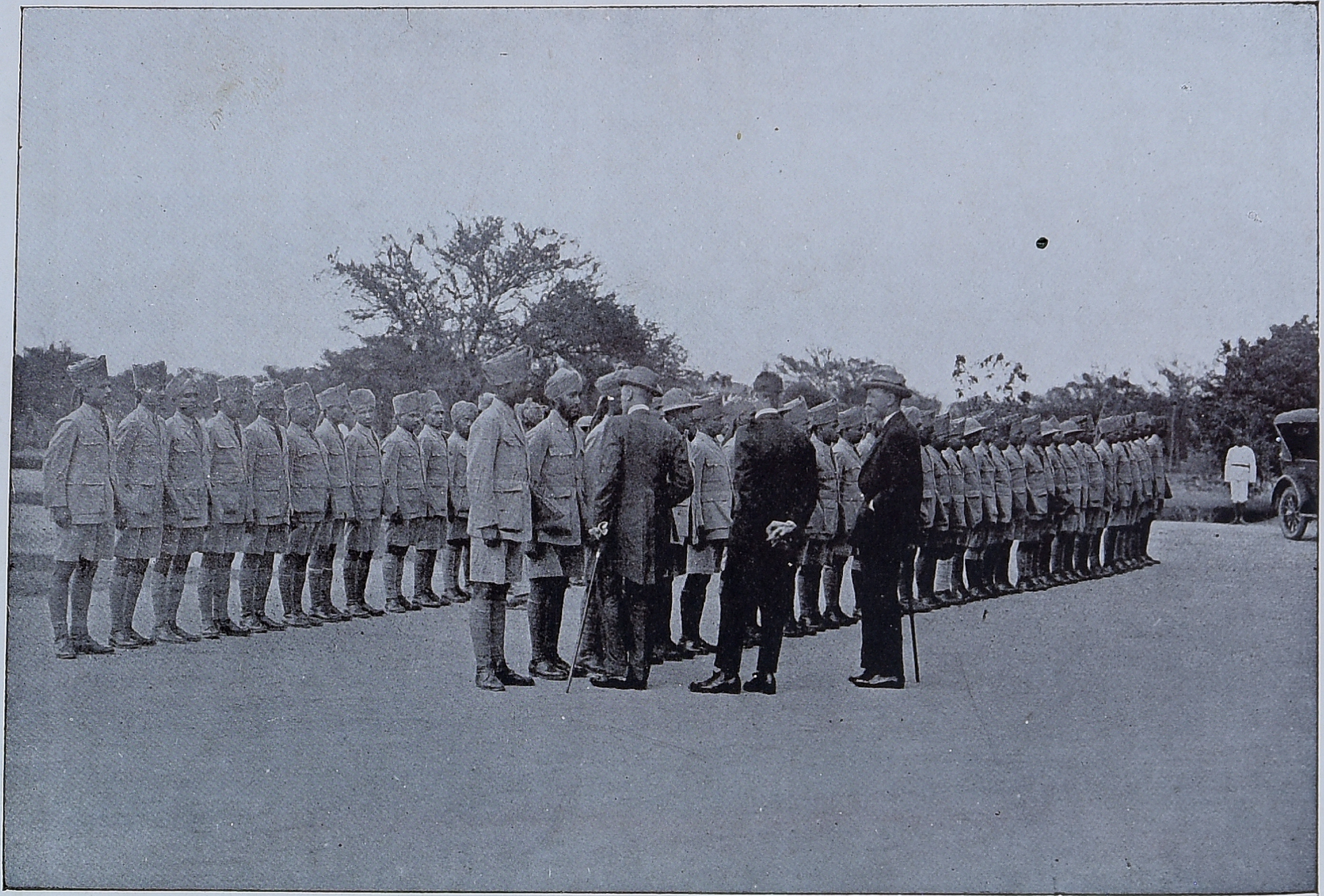

HIS EXCELLENCY, LORD WILLINGDON, GOVERNOR OF MADRAS,
Inspecting a parade of the Students of the Madras Forest College
on 'Speech Day'—30th June 1922.

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to congress fame, aspirants to council fame, and aspirants to memberships and President-ships of Boards. The ryots were armed with votes and votes had to be begged by all sorts of orators. Aspiring orators are the last people to be scrupulous They found out that the people had some forest grievances. They reiterated them, exaggerated them and promised lightning remedies and it is not a wonder that a campaign against the department resulted. Above all came the Non-cooperation movement headed by Mr. Gandhi, who in his own words, once liked the British Government, because it was the one Government in the world that "governed least". That sentiment is typically Indian Of all the people in the world, probably the people of no other country like 'being left alone' so much. When according to one of theories and ideals of the country all action leads to rebirth and life itself is trouble, what else could be expected? All changes are disliked. Benefits are wanted without any accompanying responsibility.

The Non-coperators took advantage of this mentality and roused the people to action against the department. In certain districts the action took the shape of removal of manure leaves, wholesale felling of trees in numbers, refusal to pay grazing fees, boycotting and doing violence to forest officials. All this is in a way happily ended now, but still the feelings against the department are present, and at any time things may repeat themselves, with probably greater force.

Thus to sum up, the campaign against the department is based upon certain real and mostly imaginary grievances or irremediable inconveniences that the people have, and it is chiefly due to the presence of the agitator class in the midst of the people. It is a true reflection of public feeling so far as some of the remediable and real grievances of the people are concerned, and so far as the other aspects of it are concerned it is not so, certainly.

Some of the remediable grievances will be mentioned here and the essay closed.

The chief source of grievances to the people, is the Forest menial—the Watcher—the Guard,—and even the Guard-made Foresters. He lacks character and self respect, and the people—the ryot—he has to deal with, and who is the subject of all the forest grievance is no better. That menial thinks he must make hay when the sun shines. The ryot thinks it is better to give the Guard paddy worth five rupees and remove a tree or two for agricultural implements rather than pay a rupee in cash for them and get them from the coupe contractor. Paying is not usual with them and that is probably the only reason. Till both realise things better any effort at remedying the troubles in this direction is likely to be futile. But one thing could be done. Guards and Foresters have been recently nearly doubled in number but, have the Rangers who have to look after them, been? True, there has been some increase in their number but that is more because of the new schemes of works. Thus in most of the ranges with plains forests the number of subordinates the Ranger has to deal with, has doubled and so he is not able to control all. If there is a range in each one of whose beats the Ranger could not be for 3 days in the month--15 days being the minimum camping time now repuired of him—then that range must be reduced in size There are scores of such ranges at present and there are ranges where a Ranger could not visit beats for months together. Certainly during that time the Guard plays "hell" with the people. At present the department expects the Ranger to control his Guards without seeing either him or the people he has to deal with, for weeks and months. Indeed for things not to be what they are, under the present conditions we should have Guards who are men of a high sense of self respect, responsibility and duty. This we have not. The Guard is entrusted with a vast and valuable property and the temptations he has are many. The people he has to deal with, are tempters by nature, and what else could happen but what are happening now. I really believe with better and closer control, much of the grievances of the people will disappear. Some may say we have foresters. But these Guard-made Foresters are really Guards on Rs. 38 a month. They do no better work and in many respects are no better then Guards One Ranger in the place of 3 such Foresters will certainly, do much more work than what they do

Another chief source of grievance is the presence of some small and isolated reserves in the midst of cultivations, still. Of course our policy is to give these up but some of these have not yet been given up and are still the source of trouble. In this respect it could be better for the department to less analytic in the classification of our Forests. The classification of all forests may be re-examiaed with a view to bring some of the class II Forests under class V. These and most others may be profitably entrusted to panchayats.

Most of the imaginary grievances of the people are due to their ignorance of Forest Rules and matters connected with the Forest Department. It is true that the Forest menial has an interest in keeping the people ignorant of Regulations, viz. that some trees in Poramboke can be cut and utilized by ryots etc., for this will be a source of profit to him. The remedy for this will be in making the Ranger have more time to meet villagers and talk to them. As said above he must have time to spend at least 3 days in each beat and talk to the people. It is not possible now. While there are now so many in the field playing upon the feelings and ignorance of the people against the department, the department has practically no one actually engaged in counteracting these bad influences. The Ranger is buried always among papers, reminders, works and cares of the sort and he has hardly any time to friendly move with the people., Ignorance of the so called educated people in Forest matters is by no means less than of the ordinary people. It is this class that is with its half knowledge rousing the people and it is this class that must be got at, without delay. Forest Officers should associate with these people and association of the Forest Ranger with educated people of other professions should not be interpreted to be the beginning of some mischief. The isolation, voluntary and enforced, circumstancial and otherwise, in which the Forest Officers—chiefly Rangers are kept, is also one reason for the ignorance of the public and for the ignorance of the Officers about the public feelings.

In conclusion it may be said that the present campaign against the department is a twisted or coloured reflection of the feelings of the people and remedy lies in the sources of some of the real grievances being removed and in the education of the masses and classes in Forest affairs.

"BONA SI SUA NORINT".

"Why I chose forestry as my profession."

(Winning essay for the "Indian Forester Prize" for present students. by P. Sithapathi Ayyar.)

'Why did you choose Forestry as your profession'; this same question was asked of me by many of my friends, when first

I joined the Department, well-nigh, three-and-a-half years ago I gave them some of the reasons which induced me to do so, and I do not blush to repeat the same again now. I only crave the indulgence of the readers to put up with me for a while, as what I write below is only a dull and uninteresting chapter in the life of an insignificant individual in the Department.

I was put to school, rather late in life, when I was 10 years old. The school was in the Metropolis of Madras, and the fact of my being a student there made me very proud. My parents could not afford to transfer themselves to this town for my sake, and I was left entirely in the immediate charges of a rather eccentric relation of mine, whose very sight would often make me tremble within my sleeves. Of course, I must, in justice to him, own now at least, that he was not bad at all in reality. Like Samuel Johnson, of the Dictionary fame, he had nothing of the bear in him except his exterior. Under his roof, I passed about half-a-score of years, being all the time impressed with the duty of implicit obedience, which, according to the poet is the bond of rule.

My father, however, did not entertain any high ambitious schemes for my future, and was satisfied, at the start, to find me a regular school-loving boy. So was I, and no better for some time. As years passed on, however, I rose from class to class, until at last, I managed to pass out of the college with a big certificate in my pocket. About this time, the resources, on which I had been drawing so far, became exhausted, with the result that I could not proceed further up with my studies. Neither was I in a position to mark out my future. Here was I, at the crossing of the roads of life, hesitating which of them I should take and follow.

This hesitation is, of course, a common experience with many of our college-going youngsters. The education, which is obtained, nowadays, in our schools, and colleges, does not enable us to train ourselves up for those walks of life. to which we might have dormant natural aptitudes. It does not provide us with the necessary heat and warmth which Nature offers to the dormant buds at the bases of stems, to make them shoot out and grow towards the sun and the sunlight. Under this system of education—at least as far as this Presideney is concerned--, a boy of less than 15 years of age, is often called upon to choose the subject, which he would like, to specialise in later life. Once he makes his choice, he devotes the major part of his time to that subject alone, and has barely any time or inclination to learn something of the other branches of knowledge as well. I knew of a student, not many years ago, reading in the Intermediate class, who had chosen History for his special study, and could repeat pages after pages of printed matter on that subject, but could not know such ordinary things as the composition of pure water, its colour, taste etc. He blundered half-a-dozen times before he understood that pure water is made up of two elements *viz* Hydrogen and Oxygen in the proportion of 2 to 1, and that it has neither colour nor taste. This may be an exaggerated instance ; but it shows, at any rate, what silly defects there can be in the system. For surely, the age chosen for specialising is, not at all, the time at which the average Indian student, realises or displays, his special aptitudes.

Trained under such a system, we do not think seriously of of our future until we are actually brought to face it. It does not matter at all to those who can afford to read long for the sake of reading alone. Others who read with a different purpose in view act like a flock of sheep, knocking at the gates of the Univerity, and forcing them open at the sacrifice of much that is valuable for them, viz health wealth and time. It is after this, that we ask ourselves " What are we fit for ? and what stall be our future?" Everything then becomes a matter of chance, whether we hit the right path and be happy or take the wrong course and wander about blundering and blundering.

So then I was on the brink of making my fatal selection, even as I was standing at the crossing of the roads in blissful ignorance, as to which of them I should take, and whither I would go. After some hesitation, however, I took up one of them, which was said to pass through some important markets hoping to sell myself up in one of them, if I could. The first two markets were rather dull, and I found them already flooded with my kindreds far in excess of the demand. I therefore paused in them, only for a short space of time, and then proceeded in quest of a letter market. On the way, suddenly I thought of the two sentences of Rosalind in Shakespeare's "As you Like It" wherein she says to the shepherdwoman "you are not for all markets, sell yourself when you can". I pondered over these throughout my further path, until I was convinced of their apt applicability to myself I forth with made up my mind to accept any price in the very next market, and walking brisker than before, soon came in sight of a very busy market indeed! The crowd of sellers was nearly as great as in the too I had passed through and the price was decidedly less My only consolation was that there were not many of my kindred in that large busy and humming crowd. I thought 1 could rise in value more easily here, than I could do in the midst of a large number of equals, all trying to reach the same end. Added to this there was also a strong remour afloat in the air, that the prospects of this market would be very soon be made much brighter than what it was just then. I therefore sold myself up at once and without any further hesitation.

For I could not afford to wait any longer, having already wasted more than 2 years in choosing my line. The necessity of settling myself in life was meanwhile, becoming more and more acute. If I wanted I could have found a corner in the metropolis itself for a humble settlement. But from a long stay of over 13 years, a stay which was characterised by the absence of even the most ordinary pleasures and enjoyments, which are generally associated with the town life, I had developed a strong aversion for the hum and drum of the town, its society, pleasures and enjoyments. Unless I got a very favourable start, for which I had very little chance, I knew that I could not swim successfully in the current of that society. I was afraid lest my strength should fail and land me in an ugly creek, whence escape would be practically impossible. The pride with which I started my school life was still in me, though in a dormant state I could not easily reconcile myself to a hard life in comparative poverty, and that too, in a place where I would be daily seeing so many of my school and college mates, who would be treading in a higher plane of life. Every time I meet one of them, the lowness of my position will be brought home to me with a severe pang. I could never be happy in such a place, however much of outward show I might put on. I was thus prompted to take leave of the town, which had, so far, been the nursery of my boyhood, and the training ground of my youthful intellect, but, which for multifarious reasons, could not afford me the opportunities of a decent living in the future

In the forest retreat, however, I could but very rarely meet with such old acquaintances as to make the recollection of the past days a source of pain. Very often one has to deal with illiterate folk, far removed from the busy centres of civilisation, and consequently, less tainted with its shams. pretences, and corrupt practices There is much that could be learnt from their life, especially, their simplicity, honesty, sincerity and Good-fearingness, if only one could lay aside his pride of birth social status, high education and official position. To quote only two such noble instances, there is the immortal 'Guha' (the boatman) in the Ramayana and the equally good and lovable 'Friday' in the 'Robinson crusoe'. In a noisy town, one rarely cares for developing such traits in his character. The old, but still familiar, saying also goes that the nearer you are to the church the farther from God you will be, and (vice versa), the farther from it, you are very probably, the nearer to Him also.

Another minor consideration was the love of the adventurous, which I, like many other youths had developed in the most impressionable period of my boyhood When I read at the age of 13 or 14, of the stories of the adventures of 'Robinson crusoe', or the wanderings of the children in the 'Swiss Family Robinson', or read those lines written on Alexander Selkirk, beginning with, 'I am the monarch of all I survey. My rights there is none to dispute', my imagination was tickled, and I began to picture to myself every incident of these stories and not infrequently, felt a sort of personal interest in the adventures of those heroes. So also was the effect on me of the reading of our popular epics like the Ramayana and the Mahabharata The poet who wrote them has described every scene with such fineness that one could not fail to visualise them, and become possessed of a strong and passionate longing to see some such places of beautiful sylvan retreats With some of us, such impressions pass off soon without leaving a permanent mark, while with some others, these same form a sort of everlasting background to all their thought and action I belonged to this latter category of people and so when I realised the fruitlessness of the town, at once turned to the forest as the only other alternative. Curiously enough on the very third day after joining the department. I had to spend an adventurous night in the forest, on a machan like apparatus on a tall tree, about 50ft. from the ground surface. The Forest was full of elephants in their wildest state, and the jungle tribes, who were my companions for the night told me that they used to pass several nights like this only. The whole of the night, I could hear the loud trumpets of these animals and the noise of their breaking the branches of trees, and the tearing of bamboo culms, not over a couple of a hundred yards away from where I was perched. This was good beginning, I thought in one sense, but later experience has not been so very wholesome. Yet, I pulled on in the hope that better days will yet dawn upon me also. The Reorganisation scheme of which I had heard a lot talked of in the beginning, came at last like a mouse out a mountain's labours so far as I and the others of my grade were concerned. Still I persisted true to my original determination. Thus have I passed, till now, nearly 3½ years in service, within which nothing very good had happened, and nothing very bad also. All my hopes lie only in the future towards which I shall march as hopefully and cheerfully as I can.

HONI SOIT QUI MALY PENSE".

Notes on "Balanocarpus utilis".

A large handsome evergreen tree surmounted by a dense crown; its growth is strictly confined to shola forests. It reaches a height of 80 to 100 feet and a girth of 8 to 14 feet and produces a straight clean cylindrical bole 40 to 50 feet in length. It is often buttressed. At one time, it must have been a common tree, but it is now seldom met with in accessible localities, owing to excessive fellings in the past four decades. In the heart of the shola forests, not yet exploited, ths species is somewhat abundant and gregarious

Balanocarpus utilis belongs to the order "Dipterocarpeae," which is a very important order comprising trees of very large dimensions and of great value, on account of their hard and durable timber, besides (the majority at any rate) producing resin. Balanocarpus utilis s very similar to Hopea parviflora botanically. The early stages in their growth are almost identical except that the latter grows a little faster than the former. Hopea seeds are winged while those of the other are not.

The species occurs in Borneo, The Federated Malaya States, The strait settlements and in parts of India It is fouud in the Shola forests of Kannikatty and Kodamady of Ambasamudram Range in the Tinnevelly District, where its area is rather limited but regeneration is very good. It is found in abundance along the banks of the Serviar, the

Tamparaparani and the Kuduvar. It flourishes on deep rich moist soil, on river-banks in ravines and moist valleys but is also found on laterite and in gravel soils. Owing to its gregarious nature, this species is generally found in extensive patches forming an almost pure crop. The close proximity of running streams, appears to be indispensable for its growth. In the Ambasamudra Range, the elevation congenial to the growth of this species varies from 700 to 1800 feet; and it is not found growing at such high elevation as Hopea parviflora. Along the Ghat road leading to Kannikatty, we see Balanocarpus growing luxuriantly, on both sides of the road, but as we approach Pachapil, elevation of which is about 1500 feet, the species becomes rarer.

Its chief associates are *Hopea Parviflora*, *Balanocarpus erosa*, *Gluta travancorica*, *Hardwickia pinnata*, *Filicium decipiens*, *Acrocarpus fraxinifolius*, *Pygeum Wighteanum*, *Hydnocarpus alpina*, *Engenia Spp.*, *Garcinia Spp.*, *Xanthophyllum flavescens*, and other species characteristic of moist tropical forests. The undergrowth is usually of a dense evergreen character with various palms suchas *Arenga*, *Caryota*, *Ardisia spp*, and an abundance of climbers such *Spatholobus Roxburghii* and *Calamus*

The tree does not grow to the height reached by Hopea parviflora, but it sometimes attains a greater girth and is unfortunately often unsound. Along the Ghat road leading to Kuttalam Kullaruvi near Kodamady, I observed a Balanocarpus tree having a girth of 14 feet; but the trunk sounded hollow. The wood is darker in colour and coarser grained than Hopea parviflora. Owing to the darker colour of the wood of Balanocarpus it is, known locally as "Karunkongu" (in Tamil), while Hopea parviflora is known as "Vellai kongu". It really seems strange that this tree should have been known as a Hopea to the local people; and stranger still that it should have been classified for a long time by Botanists as *Hopea longifolia.*

The seeds of Balano carpus utilis germinate two or three days after they are sown. The germimation starts by the radicle emerging through the seed coat from near its apex. The radicle continues growing till it strikes the soil after which it gradually forms a tap-root. The radicle is tipped with a conical root-cap which is often mucilaginous. The further development of the young seedling is similar to other broad leaved species.

The leaves are simple, alternate, entire, lanccolate, stipulate, 5 to 6 inches long by 1½ inches broad 10 to 12 pairs of secondary nerves, petiole ½ inch, coriaceous, glaucous above and pale green beneath. Under surface of leaf, veins, and petiole are beset with stellate hairs.

The species flowers periodically, generally in alternate years during May. By the end of October, the fruit is quite ripe and begins to fall. The inflorescence is in axillary racemose panicles; the flowers are unilateral (that is, arranged on one side of the flowering branch).

Such is also the case in Hopea parviflora. Flowers are dull white small about $\frac{1}{8}$ inch long and numerous. The floral parts and peduncle are invested with hoary pubescence. Flowers are regular, bisexual, and hypogynous, having five equal sepals, imbricate in the bud There are five petals connate at the base and contorted. The stamens, terminating in a bristle number 15. The ovary is free and superior.

The fruit is a globose one seeded nut and has a rough brownihs rind The average diameter of the fruit examined, was between $\frac{1}{2}$ inch to $\frac{3}{4}$ inch. The calyx is persistent in the fruit forming a shallow cup round it, each calyx segment being tuberculate. The Fruits lying on the forest floor under one parent tree, were heaped up, measured and found to be over 35 measures One measure contains about 250 seeds. The seeds are of various sizes aod it is not difficult to pick out the good sound seed from the rotten unsound ones. An acre sown in the pits 3 feet apart will require about 19 measures of seed, one seed being sown in each pit

Hydnocarpus alpina, and *Pygemn Wightianum* are sometimes mistaken for *Balanocarpus utilis*, because of the resemblance of the leaves In Hydnocarpus, the bark is greyish brown and slightly rough, the fruit is ovoid and 3 inches in diameter. In Pygeum Wightianum the leaves and bark smell strongly of prussic acid. Balanocarpus-erosa, which is also associated with B utilis, has a larger and heavier fruit Balanocarpus utilis is easily distinguishable at a distance by the bluish green tint of its foliage.

The natural regeneration depends largely on the seeding (for as already pointed out good seed years occur periodically generally in alternate years,) but chiefly on the monsoon. The natural regeneration is splendid where conditions of soil and climate are ideal, and the leaf canopy uninterrupted. Under the parent trees, the seedlings, establish themselves under very heavy shade in vast numbers. In a typical plot of about an acre, approximately 5000 seedlings were enumerated under dense overhead cover.

Seeds sown are eaten by pigs mice, Sambhur and other animals. To prevent this destruction, as an experiment the seeds were coated with red lead before being dibbled, The result was good; and the coating of red lead appeared to have had the desired effect. To scare away animals, by day white washed pots were placed in the dibbled areas; and by night cheap kerosine oil lamps were burnt; these two operations also contributed to the success of the experiment.

Transplanting of seedlings is preferred to broad-cast sowings. The former operation entails a good deal of care, in preserving the root intact when putting out the young plants, and is a little costlier. The seedlings are planted in suitable localities in the forest, where there is plenty of overheard cover. The seedlings put out in the upper Kodamady forest in the Ambasamudram Range were quite healthy and the percentage of success was very good. Seeds sown in the nursery beds, germinated well and the seedlings flourished A nursery for this species should invariably be located under a dense canopy and in the vicinity of water.

It is not possible to arrive at any conclusion as to the proper degree of light required during the seedling stage; but the natural regeneration under the parent trees is quite good and crops of new seedlings appear to thrive under shade. In places where creeper cutting was done, and light let in suddenly, it was observed that some of the seedlings withered in the hot weather, between April and June. This was specially noticed in the Ullar Valley Kongu area, a few miles from Kanni Katty Summing up we may say that the seedlings do well under shade; but in the open they die Hence to have a plantation of Balanocarpus alone is not possible. In *Usipothai* near Kodamady some big Balanocarpus trees standing over profuse regeneration were felled some years back, (of course damaging many a neighbouring tree) but we see in the area a crop of poles presenting the appearance of a plantation Again in Karkatmottai near Kodamady, huge Balanocarpus trees also overtopping a dense growth of seedlings, were girdled many years ago, to see the effect of light on the species We now see in that area fine trees well past their pole stage. From these two instances we naturally infer that a certain degree of light is essential for the development of the species from the sapling stage upwards; otherwise there is no way of accounting for the disappearance of most of the seedlings which germinate year after year under the parent trees in the forest. Balanocarpus does not coppice. In he tleased out coupes, contractors are prohibited from felling trees of this species or in any way damaging them

Some Balanocarpus trees were planted in the compound of the Forest bungalow at Kannikatty about 10 years ago The saplings are now about 15" in girth The growth during the early stages is very slow (perhaps for the first ten years) but afterwards becomes more rapid

The tree is ill adapted to withstand damage by fire. The bark is comparatively thin, rather smooth, and deeply fissured. Fire however occur very rarely in the shola forests.

The difference in the leaves and in the nature of the seed entails a considerable difference in the sylvicultural methods of treatment required by the two species, namely Hopea parviflora and Balanocarpus utilis. The latter with its larger and thicker leaves is essentially more a shade bearer than the former. The light nature of the Hopea seed, with its wings, results in its under distribution over more exposed areas. On the other hand, the heavy seed of Balanocarpus falls directly on the ground and under the shade of the parent tree.

In forests, in which Balanocarpus utilis occurs we meet with a number of dead and fallen trees of other, perhaps inferior, associate species. From this we can I think deduce that is attains its exploitable age later than most of its associate species. The age of exploitability of Balanocarpus is about 175 years. The Bark of the tree is darker than that of Hopea. The sapwood is pale. The heart wood is light brown when freshly cut but darkens with exposure. The annual rings are more or less distinct and are about 8 to 10 to the inch. The medullary rays are fine, clearly marked and parallel The pores are numerous, irregular and filled with a bright gummy substance The weight of the wood is about 65 lbs per cubic feet. The wood is very hard, dense and easily worked; the finished surface from the plane exhibiting glistening patches which add considerably to the appearence of the wood. It is durable and is largely used for constructional works, railway sleepers and other purposes where great strength is required. It is not subject to attack by white ants but mature trees are often found to be unsound.

It exudes a waxy coloured, and very shining resin, which is a good supporter of combustion and it might be well worth experimenting to see if it is of any value for candle making; owing to the glistening nature of the resin, it might also prove useful in the preparation of varnish.

The tree at present it not being exploited in the Government forests in the Ambasamudram range, but special attention is being paid to the regeneration of the species before it is extracted. In the near future, however, we may expect the sale of this Timber in large quantities. At present it is being sold at Rs. 1—8 – 0 per C. foot from the Kattalaimalai estate, belonging to the Jesuit fathers of Tinnevelly from their depot at Uchankulam near Ambasamudram.

S. DORAIRAJA,

M. F. C- 1921–23 Dn

The Madras Forest College June Week.

On the 28th of June last, the Madras Forest College exhibited in the local Cinema an interesting and instructive series of films of up-to-date lumbering operations in America, and a few slides representing similar work as it is now being done in the Government forests at Dhoni in South Malabar. This exhibition formed a special feature of this year's programme among the usual attractions of the "Forest Week". A big audience including many members of the Legislative Council, of the Forest advisory Committee, and other Public men as well as Forest Officers, Government officials and a large number of the general public were present.

Mr. C S. Martin—Chief Forest Engineer–whose services have recently been secured by the Madras Government, explained the films in a very lucid manner, demonstrating, in particular, the superiority of the "Clyde Catterpillar Tractor" to the present slow, and wasteful method of using buffaloes, etc , for dragging timber The "Variety Hall" was, in a most public spirited manner, lent for the occasion by the Proprietor Mr. S. Vincent

The Annual Engineering Park Demonstration took place on June the 29th, when the students under Messrs. Robinson and Hart gave some interesting displays of bridge building, brick laying, tramline laying, and erection of derricks, sheers etc.

On the 30th of June which was the concluding day of the "Forest Week", an unusually large and distinguished gathering of officials, and non-official Europeans and Indians assembled in the recently enlarged hall in the Madras Forest College to witness the distribution of certificates, medals, and Prizes to the ninth batch of successful students. His Excellency the Governor presided, while Her Excellency Lady Willingdon did the College and Students the honour of distributing the Prizes and Certificates.

Prominent among thoss present were ;—

The Hon'ble the Raja P. Ramarayaningar, The Hon'ble Dewan Bahadur K. Venkata Reddi Naidu, Ministers for Local Self Government, and Development respectively; S. Cox, Esq , C.I E., I.F.S , Chief Conservator of Forests, Madras, and Mrs. Cox; W. F. Peree, Esq , C I.E , I.F.S., Chief Conservator of Forests and President of the Imperial Forest Research Institute and College, Dehra Dun, and Mrs. Peree; the six Conservators of Forests of the Madras Presidency; H C. Sampson, Esq., C I.E., Director of Agriculture; H. L. Braidwood Esq , I C.S., Collector of Coimbatore; C. S. Martin, Esq., M.R.Ry Dewan Bahadur T. A. Ramalingam Chettiar, Avergal, B.A.B.L , M.L C., M R. Ry, C. V. Venkataramana Ayyangar, Avergal, M L C , M.R.Ry V. C. Vellingiri Gonnder, Avergal M.L.C., M.R.Ry. R. K. Shanmugham Chettiar Avergal M.L.C. M.R.Ry. Rai Bhadur Nallathambi Sarkarai Mandrariar, the Pattagar of Palayakottai; M.R Ry. Rao Sahib Rathnasabapathy Mudaliar Avergal, and M.R Ry. M. Sambandam Mudaliar Avergal M.L.A.

Their Excellencies were met at the main entrance to the College by the Chief Conservator of Forests and the Principal. His Excellency then inspected the Guard of Honour formed by the students. After being introduced to the Conservators of Forests and the staff of the College, Their Excelledcies proceeded upstairs to the Prize Distribution Hall The Function was opened by Mr C C. Wilson the Principal of the College, who spoke as follows :—

YOUR EXCELLENCIES, LADIES AND GENTLEMEN,

" It is now two years since the Madras Forest College was honoured by the presence of His Excellency, and nearly three since Her Excellency was so gracious as to pay us a visit.

"During the past two years many and vital changes have taken place in the Madras Presidency and in India.

"It was consequent upon these that the Forest Portfolio was relinquished by His Exeellency the Governor of Madras, and since then he has, naturally, not been able to devote as much time as he used to do, and we like to think he prefers to do, to Forest matters. It is perhaps on this account that he has been unable to appear amongst us since 1920, and by so much the more do we appreciate the honour of His, and Her Excellency Lady Willingdon's presence here to-day.

"The changes that have, during the past two years, taken place are of the greatest and most far reaching importance to India and to the Empire.

"Conditions have altered very greatly in this great country and the wheel of destiny has for her turned appreciably

"She has been entrusted with a great measure of self Government and is on her way, and not far from, the goal of complete independence within the greatest Empire that the world has ever seen. As is inevitable in the course of any such great changes as are involved in such a revolution there have been troublous times and difficult incidents, but one by one these have been passed and surmounted, and now this great country is in a fair way to come into her own and to show to the world how worthy she is of the trust placed in her by our Sovereign Lord the King Emperor. She has a destiny in store for her, if she is wisely ruled by her new Parliaments, that is truly great. Her resources are vast, her people industrious. The climate and conditions found within this great Indian Empire are so varied as to include practically all those found throughout the rest of the world. Of these resources, one of the least developed at present are her Forests. The Forest land in India and Burma covers some 251,000 square miles, and of this some 126,000 square miles is timber land of which about half is as yet scarcely touched.

" Of the forest, other than exploitable timber forests, a great deal is grazing ground, a great deal is fuel and bamboo forest and a great deal is protective forest The timber forests of commercial value are now attracting much attention. But the value of the other type is really far greater.

" Without fuel forests and grazing grounds the great agricultural population of India would be completely destitute in a very short space of time. They themselves realise this but little and think only of their immediate needs, and they fight continually against the protective rules that are a necessity if these forests are to be preserved for their children.

" But of even greater importance than these are our *protective* forests, and their value is even more difficult to realise or to demonstrate. It *cannot* be gauged in Rupees, and can indeed be demonstrated only by argument. Our hill protective forests are responsible for the whole of the water supply of the plains. Think what this means!

"We all know what even *one* year of *famine* in a district means Well, were these forests of ours to be abandoned, and destroyed, large tracts of country would very shortly be reduced to a state of *perpetual* famine And yet many people cannot or will not see this. The work of the Forest Department up to date has largely consisted in reserving and protecting such forests with great (though not very obvious) benefit to the agricultural population of India, and therefore to all India Now we are turning our attention to the less important, though far more *obviously* remunerative, timber forests With difficulty we have begun to arouse interest in these; but this interest must *not* be allowed to overshadow the greater importance of our protective forests and our fuel forests.

"Well, in our timber forests are found some 5,000 different varieties of timber trees; that is to say we have here, within our borders, timber for every conceivable purpose for which timber can be used. And we have vast quantities of it. Moreover all is at present controlled by as highly trained and highly organised a Forest Service as any in the World. Of this Forest Servicc the Rangers, are the backbone. There is therefore little danger of any of these Forests ever disappearing so long as you young men and those who follow you do your duty. But this great property, an asset of enormous value to the Indian Empire, is at present largely undeveloped. In the past the Department has been undermanned. At present many schemes for development are afoot and much potential wealth is almost within sight of realization; but these schemes are, we will hope only for the moment, held up owing to lachk of financial backing. As matter stands, India, who could export timber for every conceivable purpose to every corner of the Civilised globe and thereby vastly increase her wealth, herself imports crores of cubic feet every year; she imports lakhs of sleepers for her Railways, and yet she has sufficient timber *suitable* for sleepers not only to supply all she requires but to export to other lands; she imports laks of bobbins for great cotton and Jute Mills and yet she has ample supplies of timbers better suited to the purpose than those which are imported; Madras, alone imports timber for boxes for Tea and Rubber in the form of three-ply wood to a value of 5 lakhs of Rupees per annum; and yet Madras herself could supply all this and still have enough to satisfy a large export trade. You see therefore that the timber forests of India are a potential source of great wealth to the country and they are ripe for development. During the past 60 years the Forest Department has been gradually and steadily growing It has had and still has much to contend with, and many calumnies to meet. But with forests of so great a value and with such an infinity of potential good in them its ultimate success is inevitable.

"During the past 60 years or so, from very small beginnings, the Department has gradually grown and expanded. With a small and sadly inadequate staff it has steadily advanced and has worked in the face of adverse criticism on all sides steadily and doggedly. First the reservation and then the protection and organisation of the forests have been taken in hand. There are only a few among us who realise now the desparate struggles of our predecessors, just as there are few among the general public who have any conception of the difficulties with which we have to contend. So little indeed is known, even among those who ought to be better informed that the Forest Officer's life is by some often considered and stated to be just one continual round of pleasant shady camps and happy shooting excursions. Yet it is a curious thing that when one has once been able to take any one of these scoffers out and really show him what work in the forest means, he almost invariably changes his tone and becomes as enthusiastically pro- forest, as any forest officer; and he often realises that he himself is not physically capable of doing the "Kusky job" he has always so much envied before.

"Well, of all the Forest officers' jobs I think that without doubt the Ranger's is the hardest, and the most fraught with possibilities for good and ill. If our Range officers are good, and by good I mean not only well trained but upright, keen, active, and energetic we need have little fear for our future.

"Once again, then, you Rangers who are leaving the College to-day, remember that it is not for your own hand that you are working, not to your own profit you must look; you are the servants of your motherland and of a great Empire, and by your honesty and hard work you will be able appreciably to affect her prosperity. If a man can feel that he has done this in even a little measure, it is something to have lived for, and I believe I can say that among our present Seniors, who are about to leave us I could name more than one who does indeed at present intend to work to such an ideal.

"Now you may *start* with such ideals and find it difficult to live up to them.

"Discouragements are many and the actual drudgery of a Ranger's life is sometimes appalling, but don't let this dishearten you. Develop a sense of perspective and keep on trying. What seems almost a *tragedy* in the evening, after a long day's work, will wear quite a different aspect when looked at in the sunshine of the next morning.

"Remember that so long as you work well and really try to do your best your superior officers are your friends. But remember too that "eye wash,"— by which I mean just brightening things up temporarily when an inspection is expected,—will not deceive even a fool, for long.

" Remember that no self respecting officer has any use for a subordinate who is *without* self respect.

" Try to develop independence and initiative. But once again let me impress on you that independence is not established by discourtesy to either subordinates or superiors, strangers or friends.

" Try to cultivate an interest in your work for its own sake. Don't be easily " discouraged ", that is a word that is heard far too frequently. Maintain your own courage, and don't expect a pat on the back, or promotion, every time you do your duty ! A good man is ***not*** forgotten, but he cannot expect to be continually being told what a fine fellow he is, though undoubtedly that is very pleasant when it does come.

" Let me come now to the more immediate business of the day, and review the years's work of the College.

" The late Principal, Mr. Cowley-Brown has now definitely retired from service and I am afraid we will not see him again in this country. He has written me a letter of farewell which is addressed I think more to the College than to myself and it will not be out of place to read it to you now : –

'I have by this Mail received from the Government of Madras permission to retire.

'I must therefore bid farewell to the College In taking this opportunity of doing so I want to express to you however inadequately—my feelings of regret at the official severence of my connection with the College, and to assure you of my future sympathy with its ideals, its difficulties, and its triumphs

'In efficiency and conscientiousness the College, I believe, has no superior in India—and in these critical times such an example must be of special value to the country.

'The staff has made the College; it is for the students, past, present and future, to carry on its traditions.

'The Brasier Prize was founded in memory of a great Forest Officer, whose fine character overcame adverse circumstances from which the present generation is happily free. May the winners of this Prize be always inspired by the same spirit of courage and tenacity

'It is ten years to-day since I left the charge of Salem North to take up the business of starting the College. They have been the happiest years of my service—not always easy but always full of interest; and it is in grateful remembrance of the loyal help I have received from you and other members of the Staff during those years that I say to all connected with our College *Vale atque valete*."

"Well, what this College is Mr. C. Cowley Brown made it; he lived for it and for it alone during his last few years of service and by the success that he made of it he has left his mark on India.

"Another most painful episode of the past year has been the death of Mr. Sundaram Ayyar, Instructor in Forestry to the Senior Division

"He was a keen and able Officer devoted to duty and much respected by all who knew him. His death came as a great blow to all of us at the College.

"As regards the general health of the residents on the Estate it has on the whole been good. We were visited a few months ago by an outbreak of smallpox, but by careful segregation of those affected, and largely owing to the efforts of Mr. Hart, the House Tutor, and of a young Sub Assistant Surgeon—Mr. B. Manjunatha Baliga who had just returned from camp with us, and who was placed on special duty to assist the Local Sub Assistant Surgeon,—the disease did not spread.

"This was a very great relief.

"In camp the health of the students has generally speaking been better than usual. The Juniors have been especially free from sickness, and this may be very largely attributed to a really wonderful quinine tonic, with which the Officer Commanding doses them regularly.

" As regards the general ability of the present Senior year, who are now leaving the College, I think I can say that it is rather above the average The *best* of the students are a very level lot and are certainly more efficient than the best of the two previous years I. have known. *But* there is a marked tendency to tail off amongst those at the bottom of the year.

" Five Honours Certificates have been awarded which is a greater number than has, I think, been given before.

" Higher Standard certificates have been won by 15 students and Lower Standard by 15.

" In the Athletic line the year has been a successful one Hockey is our recognised game and at this we have played 6 matches and have won 5.

" In the local Tournament we reached the finals but were beaten by our old friends the Agricultural College after a really good game.

" The Interdivisional match for the Cowley Brown Cup was won by the Senior Division.

" Many of us here witnessed the game a few days back and a very good struggle it was.

" The Marathon race was won by M. B. Ayanna. It was over 7 miles in length and he ran it in the very good time of 48 minutes. In this connection I may mention what is to my mind one of the most sporting and unselfish things I have heard of recently. There is another Coorg student here, N. S. Poonacha by name, who is an unusually good long distance runner, and who won this race last year. Now, one of the greatest honours at the College is to win the *Pentland Shield* for athletics in general; this is awarded on marks given for all the different athletic events at the College, and it has been won by a student from Coorg more often than by one from any other State or Province. Last year Coorg failed to win it. This year, then, to make sure of it our long distance runner Poonacha ran the 7 mile Marathon race—which counts a large number of marks towards the Pentland Shield, side by side with his fellow Coorg Ayanna and then allowed him to win by one yard, in order to make certain of carrying back this coveted trophy to their own country. Ayanna was already well in the running for the Shield and this win made him practically certain of it. The loser was not in the least distressed and without doubt could have won easily had he wished to. I consider that he deserves the greatest credit for his very sporting and disinterested action.

" The Inter-Divisional Challenge Cup presented by the late

Risaldar Major Amir Muhammad Khan Sahib for the Marathon Race was won by the Senior Division.

" I have an announcement to make in connection with this race, namely that M. R. Ry. K. Rama Raja Mannarghat Moopil Nair Avergal has very generously founded a fund to provide a personal Prize for the winner of this Race, it being one in which all students have to compete, and an athletic event of some importance at the College. For his generosity the thanks of whole College are due. He has no direct connection with the College and his action can have no other aim but to foster a sporting spirit among our young Rangers.

" At the Athletic Sports good form was shown and the College record for the mile was lowered by 1/5th of a second by M. B. Ayyanna. This same student, who is a natural runner, won the *Victor Ludorum*, a Challenge Cup presented by Mr. R. D. Richmond of the Forest Service

" A few weeks previously at the Grigg Memorial Sports when all the schools and Colleges in Coimbatore compete against each other, we had several successes, M. B. Ayanna won the quarter mile in one minute and one third seconds and N. S. Poonacha won, and brok the local record for the mile.

" The Pentland Shield for the best all round Athlete to which I have just referred has been won by M. B. Ayanna with 25 marks K. A. Bhandary is second with 21 and N. S Poonacha 3rd with 20.

" To turn to the Estate itself. One or two changes worthy of note have been effected Of these the most important is the improved water suplly We have now just enough for our present needs. Formerly we had not ; and a lack of water is one of the most serious of inconveniences. But we are still without our very necessary *auxiliary* engine. for pumping our water and a few days back our old one gave out and has not yet been repaired Needless to say such an occurrence in a large colony like this causes a great deal of trouble, and the arrangements for temporary water supply which have had to be made are costing Government an appreciable sum daily. It is hoped that the auxiliary Engine which was asked for two years ago, but which was only quite recently sanctioned, will soon be installed

" For the improvement in the quantity of water available we must thank the Public Works Department who in spite of the general financial stringency have done their best for us their year. Not the least of their achievements on our behalf is the preparation of this Hall in which we are now collected. Less than 3 weeks ago it was two small separate rooms, and for many years we have had to suffer under the serious disability of having to limit ourselves in the number of guests we invited to our Prize Giving.

"Now we have a Hall of ample dimensions, which, by the ingenuity of the Public Works Department, can be reconverted when required into two seprate rooms by the fixing of a removable partition in the place of the old wall.

"It was originally proposed to build a new wing to the College to contain such an Assembly Hall as this presents, as well as certain other necessary Research Offices and Record rooms.

"We have succeeded however, in saving Government the considerable expense this would have entailed, and at the same time have not denied ourselves the accommodation that was indeed a necessity,

"With our neighbours the Agricultural College and Research Institute our relations have, as always, been of the very best. With our other near neighbours, the Coimbatore Municipality our relations have this year, I am glad to be able to record, been most cordial. Their popular and efficient Chairman, M. R. Ry. Rao Sahib C. S. Rathnasabapathy Mudaliar Avl., has met us in many small ways and has done for us many of those little things which always mean so much.

"The discipline of the College is satisfactory. At the beginning of the year we had an unruly element to deal with amongst a certain clique, largely confined to the newly arrived Juniors.

"We dealt with it, quite satisfactorily.

"I think I can rightly say that now the Juniors are a well behaved set of young men, with a good working knowledge of their obligations and privileges. It is often difficult for new arrivals at the College to realise the meaning of the word discipline, a thing some them have never met with previously. However here they do learn to obey, that very necessary preliminary to the controlling of others which is a large part of their life's work.

"Our camping has been in accordance with the revised programme sanctioned by the Board of Visitors last June, and it has been found to be more satisfactory than the old one. The main change consisted in the institution of a short 3 weeks camp in the middle of the first long monotonous 3 months term in Headquarters. Not only does this break the monotony but it gives the Juniors that very necessary *practical* insight into the *theory* they learn at their lectures, and enable them to understand what they are being taught.

"The forest College tours throw considerable strain on the Districts in which they take place, and this we realise well. In some cases this strain has been even greater this year than usual as we are in a transition stage,—*between tents and sheds.* However those who are assisting us in this matter can console themselves with the reflection that they are conferring a small but very real financial benefit on the country at large, since the change will save Government some Rs 5000 a year for the next 25 years at any rate.

"We must offer our very hearty thanks to the Conservators, and District Forest Officers in whose jurisdictions we have camped. Our thanks are also due to those of the Range officers who have helped us. *Nearly all* have done their best for us and some have given themselves much heavy extra work in their endeavours to assist. With such assistance these camps aie of great value to the Department generally, as the Students learn far more from one month's such touring than from 3 in Head quarters. But without the help of the Range officers and local subordinates very little can be accomplished, and the students might equally well remain in Coimbatore.

"We must come now to what is the serious business of the afternoon.

"May I request Your Excellency to be so gracious as to give away the Prizes.

"I will read out the list of Prize winners and as I read each name, the student will come forward and receive his Prize and certificate at the hands of Her Excellency, Lady Willingdon.

"(1) The Campbell Walker Prize, for the Student who is likely to make the best all-round Ranger, won by, K Annappa Bhandary."

There were several others whose names came up for consideration and these were

N. S. Poonacha.
P. Sithapathy Ayyar.
M. Mologoda.
V. Ramalingam.

"(2) The brasies Prize for the Students likely to make the best outdoor Ranger; won by K. Anappa Bhandary again; there were several others whose names came up for consideration and these were

N. S. Poonacha.
M. Mologoda.
M. Mandanna.
M. B Aiyanna.

"(3) The Gold Medal for the best Senior Division Student on Marks, presented by Government:— won by P Sithapathy Ayyar.

"(4) Silver Medals for Honours presented by Government won by

P. Sithapathy Ayyar.
A. K. Kunhunni Nair.
M. Mologoda.
V. Ramalingam.
K. Annappa Bhandary.

The fifth medal is not yet ready as the necessity of distributing 5 honours medals in one year was not anticipated.

"(5) The Madras Conservator's Prize for Forestry : won by P. Sithapathy Ayyar.

"(6) The Lodge Prize for Engineering: won by P. Sithapathy Ayyar.

"(7) The Indian Forester Prize for an Essay by *past* students.

"It is gratifying to note that there were more competitors this year than there have been formerly. Presumably this was due to the fact that the subject of the Essay interested them. It was in connection with the recent criticisms of the Forest Department in the Press, and Legislative Council. The Essays received were above the usual standard and showed much thought had been given to the subject.

"The Prize was won by the past student who chose as his motto "*Bona si, sua, norant.*"

I will open the sealed envelope which contains his name. The winner is Mr. T. D. Ponniah, Range officer, Polur Range.

"(8) The Indian Forester Prize for an Essay by *present* students The subject was " why did you choose Forestry as your profession".

Several good Essays were received The prize was won by the student who chose as his motto "*Honi soit qui mal yepense,*', "I will open the sealed envelope which contains his name. The winner is P. Sithapathy Ayyar.

"(9) The Chief Conservator's Prize for the best student in the Junior year has been won by K. Sankaranarayana Rao of VIth Circle, Madras.

"(10) The Pentland Shield for the best all-round Athlete in the College has been won by M. B. Ayyanna, from Coorg.

"(11) The Fischer Challenge Cup for Gymnastics has been won by S. C. Ramalingam of Ceylon.

"(12) The Examination in First Aid to the injured held this year as usual, resulted in 21 students out of 35 gaining certificates. These will be distributed now along with the College certificates

"(13) The Madras Forest College certificates have been awarded as follows:—

Honours Certificates:—

1. P. Sithapathy Ayyar, who also obtained a 1st aid certificate.
2. A. K. Kunhunni Nair, Do do do.
3. M. Molagoda, Do do do.
4. V. Ramalingam, Do do do.
5. K Annappa Bhandary, Do do do.

"(14) *Higher Standard Certificates*, in the following order ;—

6. K. Seetharama Hebbar.
7. N. S. Poonacha, who also obtained a 1st aid certificate.
8. B Kotilingam, Do do do.
9. M. S. Krishnasawmi, Do do do.
10. G. V. Moghe, Do do do.
11. M. Mandanna
12. Balak Ram Anand.
13. K. Gopalakrishna Rao, who also obtained a 1st aid certificate.
14. S. C. Ramalingam, Do do do
15. J. K. Bodas, Do do do.
16. M. Ganesan
17. P. A. Madhavan
18. N. Rajagopalachetty, Do do do.
19. M. Abdul Hamid, Do do do.
20. G. A Vagle, Do do do

"(15) *Lower Standard Certificates*, in the following order :—

21. A Thirupathy Rayadu, who also obtained a 1st aid certificate
22. G. R. Kelkar, Do do do.
23. M. Warris Husain.
24. Balakrishna Das, who also obtained a 1st aid certificate.
25. A. Narayana Rao, Do do do.
26. Hans Raj Dutt.
27. H Wijiesinghe.

28. K. O. Anandan, who also obtained a 1st aid certificate.
29. L. S. Chati.
30. J. B. Rodrigues.
31. M. Hasnuddin Khan.
32. S. R. Punde.
33. M. B. Ayanna, who also obtained a 1st aid certificate.
34. D. A. Abeyaratne.
35. P. Gopalan.

"(16) For loyalty to the British Government, and for personal bravery, in carrying a letter through to Malappuram and bringing back a reply last August, when the loyal garrison there was cut off by the rebellious Moplah forces, the College Duffadar, M. Kuniyara, late Naick of the 2/73rd Malabar Infantry, has been awarded a certificate, which will now be presented to him by Her Excellency Lady Willingdon.

"(17) For good work in connection with the Census Operations of 1921.

P. Kuttappan Pillai
Prithichand
and J. S. Vedanayagam

have been granted certificates.

"THANK YOU, YOUR EXCELLENCY.

Ladies and Gentlemen, I must crave your patience for a few minutes longer. It gives me great pleasure to thank the Examiners for the trouble they have taken in coming, many of them a long distance, to conduct these Examinations; and for the patience they have shown with the more nervous of the examinees. I have no doubt they themselves remember well the terrible ordeal of their own "*vivas*" and that this has made them by so much the more long suffering Their reports on the Students they have examined are on the whole most encouraging.

"It gives us great pleasure to see here to-day so many members of the Legislative Council, and Public men who are not in any way really connected with the College or the Forest Department. Their presence is an evidence of that growing interest in the Forests of India which it is so important should be aroused.

To Mr. and Mrs Peree, for coming all the way from Dehra Dun, we are sincerely grateful; we hope that Mr. Peree may be able to give us the benefit of his council founded on his riper experience, at the Father of our Forest Schools as well as in the organization, and co-ordination with the Central Research Institute at Dehra Dun, of our Research branch which we have recently started in a small way and hope to extend. Our heartiest thanks are due to Mr. and Mrs. Cox and the Conservators of Forests for their help in the past busy fortnight, and for the encouragement to all that their presence here on this occasion is.

"And to Their Excellencies, the Governor and Lady Willingdon we would express our sincerest gratitude for the honour they confer on us and on the College by their gracious presence here to day. We are most grateful for this renewed evidence of the interest we know they take in our welfare, and we venture to hope that we may again be honoured by Their Presence on not too distant a future date".

HIS EXCELLENCY then rose amidst loud applause and addressed the audience as follows ;--

" MR. WILSON, LADIES AND GENTLEMEN,

" My first duty of course is to express Her Excellency's very sincere pleasure at having had this opportunity of coming this afternoon to present those Prizes to the successful students, and to condole with the unsuccessful students. I want to thank very particulary Mr. Wilson for his warm welcome to us here, and I can tell you that it has been a great pleasure to us both, but I think it is particularly to me, because I like coming down to look round and to inspect certain departmental activities of the two departments. Agriculture and Forests, in which I have been deeply interested, and practically interested, the whole of my life; and I want to say that I like particularly coming to see the Forest College. I think there is an *esprit de-corps*, a sense of discipline, and that goodwill and friendliness among the students and Officers of the Forest College, which I do not always see during my tours through the country.

"I want however to enter a protest against certain references which Mr. Wilson made in the early part of his speech. He rather said that it was due to the Reforms that His Excellency the Governor had not been able to come so frequently to the Madras Forest College as he used to do in the early part of his career. His Excellency has been Governor of the Madras Presidency for 3 years and 3 months He has visited the Forest College on three occasions. He has therefore visited the College,— within three months,— once a year, and considering his other activities it shows he is very deeply interested in all that you do.

"There is another matter that I want very particulary to make a few remarks upon, this afternoon, in connection with Mr. Wilson's speech made just now. He showed with reference to the changes of the present times, the spirit which, I believe, runs through the whole forest Department, a spirit of recognition of changes that are going on, a spirit of complete optimism in the future. I am quite certain that we shall get over the difficulties that are in our way. I want to say to Mr Wilson very sincerely, "I am grateful to you, for I also am an optimist." Let me add that there are too many pessimists just now both in the political and other spheres, but difficulties are made to be overcome and I am perfectly certain that by the co operation ot Bristish and Indians, we shall soon overcome these difficulties and we shall deal with all with absolute fairness and justice Our object must be to hand over as soon as possible the full control of the administration to Indians; and that, after all, must be the ideal in the future. Well, I consider that for many years yet we shall find British and Indians in close co-operation, the British advising and the Indians learning, until the British can say, "we have come to the consummation of our great task and can now hand over the whole control of the Administration to Indians."

"I want to say one word to you, Ladies and Gentlemen, with regard to a certain message that was sent to me by the Chief Conservator *only two nights ago.* He sent word to say that it is usual on this occasion for the Governor to discuss generally the speech of the Principal and also to give a general survey of the activities of the Forest Department.

"I will tell you that whenever His Excellency is going on tour, practically every Department of the Secretariat during the last 12 hours before he leaves Head Quarters throws files at him without cessation. I had therefore no time to look into the Chief Conservator's message until this morning. Having made this confession, I do want to say a few words on certain matters which interested me extremely in Mr Wilson's speech; in the first place I should like to say that it was an admirable speech,—in every way a comprehensive survey of the past year and containing many valuable pieces of advice to the students

"There was one matter which interested me deeply. He spoke of the vast possibilities of development in the forest department. He spoke of the amount of timber that for various purposes we import into this country which could be replaced by timber we grow ourselves; he went on to say that there were four different sorts of forests in this Presidency; there were the timber forests, the grazing grounds, the fuel and bamboo forests and the protective forests; and he further added that he thought that the three latter were far more important than the former, Now I can realise and I appreciate the extraordinary value of the three latter, but I hope he will agree with me when I say that the first one is equally important; for I believe, and I am bound to say this, that for the Forest Department it is important that they should develop their timber, their vast supplies of timber, so adding enormously to our revenue. In past years the activities of the Department have been almost entirely confined to looking after grazing or fuel or protection, and the development of the timber forest has not been going on at all. This is because we had not yet got a big enough staff to deal with this side of forest development I will tell you that recently we have discussed with the Chief Conservator at considerable length whether there is not any possible means of handing over the responsibility for our fuel forests to some other organisation in the future, thereby leaving the Forest Officer to that extent free to do his other duties. We have outlined a general scheme which has been passed by the majority of the Legislative Council, and I hope very much it will mean more future activity in the way of development of our evergreen and deciduous timber forests.

We in this Madras Presidency are extremely fortunate in the fact that we have secured the service, of Mr. Martin, as our Chief

Forest Engineer to organise the development of our great forests in the future. He is a man of great experience. I understand he has been showing you some Magic lantern slides in the Coimbatore City only very recently and that will show the general sort of schemes he has in his head.

"The whole scheme with regard to the utilisation and Engineering branch of the Forest Department is under the consideration of Government. Our Chief Conservator has been good enough to send up the full scheme for our discussion and I sincerely hope and trust that the Legislative Council will do the right thing and pass the scheme when it comes before them. for it is of the utmost importance if we are going to develop our forests in a satisfactory way in the future.

"There are certain matters with regard to this development which I should like to lay before you. The points which the Chief Conservator has endeavoured to elaborate are :—

1. The absolute necessity of obtaining the best technical advice possible ;
2 The desirability of going slowly until we have organised, the technical branch to deal with these technical schemes ;
3. The necessity of treating all these schemes on a commercial basis with a proper system of accounting ;
4. The necessity of looking ahead and training our establishment in advance to cope with future delopment ;

5. The need for economy and the desirability of expanding only in proportion to the success obtained.

"These are the general principles which we are going to lay down for ourselves and I sincerely trust that the Legislative Council will sanction the scheme.

"Ladies and Gentlemen, I want to say one word on a matter on which I dilated at some length this morning at a certain ceremony at the Agricultural College with regard to departmental criticism. I think that the general atmosphere of feeling towards the Forest Department now is not one of rather hostile criticism but one of general support I should like to add this: in the old days in every department there was practically no public criticism but in these galloping days of reform the educated Indian wishes to know the reason why,—and I think he is perfectly right. If, in every department as also in this we lay all our cards on the table and give the fullest information possible to the public I think that they will become the blessers and not the cursers of our Forest administration.

"I only want to refer to one more matter which relates to the administration of the Forest Department It is the question of housing. I fully realise the extraordinary difficulty of the housing question to officers not only of this Department but of every other department under our administration. The matter is being discussed and being looked into with great care and will be dealt with in a generous fashion before long. My Hon'ble colleague is alive to the situation and you may be quite sure that Government are doing their best to improve this serious difficulty as soon as possible.

"Ladies and Gentlemen, I should like to echo every word Mr Wilson has said with regard to Mr Cowley-Brown. He is a great loss to this College; he is a man of most electric energy and he lived for this College during his last few years. I feel quite sure however that his successor will fully uphold the traditions of the College.

"I should also like to express my deep regret at the death of Mr. Sundaram Ayyar; I am given to understand that he was an officer of very great promise and it is most regrettable that he should have been taken from us at so early an age.

"My sincere gratitude is due to the Chairman of the Coimbatore Municipality, who, I understand, has shown a most co-operative spirit in every way towards this College.

"Ladies and Gentlemen, having said as much as this with reference to Mr Wilson's speech, I suppose you are expecting at the end to receive a lecture before the oration is finished. Well, I am only going to ask you students to remember every word that Mr. Wilson has said to you this afternoon. Always be self-respecting, always be courageous, always be high-principled, and always have a great sense of honour. If you do this and keep these things in your mind you will not go wrong I want to impress upon you particularly, not to be easily discouraged even though you *may* think that things are going badly for you; if you do feel inclined to be discouraged, let me tell you that, after 7 years of strenuous life as head of various administrations during rather serious times in India, I had allowed myself to be discouraged, I should have had a bad time indeed. It is true that Rangers are the backbone of the service. Remember that good service always does get its reward; many of you young men standing at the back of the Hall may, as the Department is now constituted, rise to high position in the forest service in future years, if you work well and keep straight.

"Before I sit down, one word more. Our Chief Conservator Mr. Cox is leaving us to go on leave within a few months and I want, before you all, personally to express my very sincere and grateful thanks to him. During the past three years that we have been associated, he as Chief Conservator and I as Governor, he has always shown me loyal support and given me constant good advice and constant encouragement. I can only say this: I think the Forest Department is extremely fortunate in having had such a good captain of their eleven, and I sincerely hope that after a short sojourn in England he may return with renewed energy and full of vigour to carry on the great schemes that he has outlined for us".

Mr. S. Cox, the Chief Conservator of Forests then called for three Cheers for their Excellencies, which were most enthusiastically responded to. A move was then made to the ground floor of the College where the guests partook of refreshments. After witnessing a dance by the Coorg students, attired in their National dress. Their Excellencies left, for Bangalore; shortly after, the other guests also dispersed, and thus ended a most successful function.

Forcing frames for Eucalypts in the Nilgiris.

In the Coonoor and Ootacamund Bluegum plantations the artificial means adopted to induce the germination of seeds of the Eucalyptus hardwoods, is rather interesting. Considerable difficulty seems to have been experienced in getting seeds of these species to germinate. To obtain satisfactory germination the device employed is that of "Forcing Frames," which not only brings about germination but also protects the young seedlings from external dangers, such as frost, rain, wind and excessive light and heat, during the early and critical stages of their development.

Each individual frame is set in four masonry walls enclosing a rectangle 24 feet by 4½ feet. Of the two longer walls, one is 2½ feet high, while the other measures only 1½ feet. This gives a considerable slope to the frame when fixed in position and provides the necessary drainage. The walls are of burnt-brick-in-mud masonry 13½ inches thick, and plastered with mortar both inside and out. On these walls is fitted the main frame, made of well seasoned Teak scantlings 4 inches by 5 inches in section. Each frame contains 3½ sets (that is 7) of windows, which close securely on hinged joints, similar to any ordinary window. Since the windows lie in a slanting plane they can be closed practically air tight, so that little or no air is admitted to the chamber enclosed between the four walls and the overlying frame. The panes of the windows are painted with ordinary lime, so that only diffused light is admitted into the chamber. These glazed windows also serve as a means of regulating the temperature and circulation of air, so that extremes—both heat and cold—are not felt within the chamber where the boxes containing the seeds (and subsequently seedlings) are placed. Twenty boxes go to each frame. Bamboo mats are spread over the windows during storms, to protect the glass panes from hail and heavy rain. The whole frame is detachable and can be removed and reset in another masonry structure built in any other desired locality. The cost of the whole structure, including masonry, amounts to about Rs. 350.

The contents (that is soil packing) of each box is as follows :—

The bottom most layer consists of two inches of 1½″ aggregate of newly burnt brick; over this, there is a two inch layer of inverted turf. The third layer of two inches is made up of moss spread loosely; and the remaining three inches is filled in with sterilised shola earth. The broken brick serves as a filter, admitting air from below, and also eliminates any chances of a water logged condition creeping in. The turf placed above, is a means of preventing the water from carrying away by percolation the upper layer of sterilised shola soil, and being inverted aids in maintaining a condition of suitable humidity within the earth above. The moss retains moisture, and in so doing eliminates any tendency towards drought. The top most layer of shola earth, being sterilised, is free of all germs, seeds and other foreign bodies.

"Sterilising" is a scientific method of purifying earth used for nursery beds, by destroying germs, eggs, and larvae of insects, seeds and other organic matter which exist in the earth, and which might later on prove injurious to germination and early growth. A galvanised corrugated iron sheet is raised at both ends on two low masonry piers. A bag of shola earth is evenly spread over the sheet and it is heated from underneath. The earth is constanly raked up, so that all its particles come in contact with the heat. A blue smoke is emitted, during the process as a result of the destruction of all organic matter found mixed in the earth. When this blue smoke ceases, the sterilization is complete and the earth is allowed to cool and may then be used for nursery beds

In Coonoor, "Forcing Frames" are erected near the Black Bridge reserve on a level bank of a small stream the site having chosen to facilitate the watering of the seedlings The seeds are mixed with shola earth, bulk for bulk, and are sown broadcast in the boxes, the species selected being Eucalyptus pilularis and Eucalyptus paniculata. The seeds are obtained from Australia. Twelve ounces of seeds are sown in the twenty boxes contained in one frame. In this manner, seeds were sown on 9—4—22 The Eucalyptus paniculata has germinated well, while the Eucalyptus pillularis is a failure, due probably to bad seeds. The boxes are watered both in the morning and in the evening.

The admission of heat and light is regulated by closing and opening the windows, which are, until germination, kept completely closed at night, and opened about an inch during the day. After germination, which takes place after the lapse of about a fortnight, the windows are opened from 6 to 9 inches at night and from 1 to 1½ feet during the day. This degree of ventilation appears to give the young seedlings a sufficient quantity of warmth, and affords a uniform temperature, diffused light, and protection from frost, wind and rain. Without this regulation and protection, in a severe climate like that of the Nilgiris, the young seedlings would not be able to survive the extremes of temperature. It will thus be seen that conditions congenial to the germination and early growth of the Eucalyptus hard woods, are supplied artificially, since they do note exist naturally in the locality in question Hence this method of germination is known as that of "Forcing Frames".

Unfortunately by experience it has been found that the moss and inverted turf have proved the breeding places of insects. This fact, to a certain extent, considerably reduces the beneficial results obtained by sterilising the soil used in the topmost layer of the boxes. However to minimise, if not to completely eradicate this danger, excessive watering has been resorted to, and it now remains to be seen if the desired result will be obtained.

When the seedlings are about ¾ inch high, they are transplanted ½ inch apart in a second set of boxes (also kept in the Forceing Frame). Thus each box holds about 2500 seedlings. When the seedlings attain a height of 4 inches, they are spiked out and mossed, and placed in open beds, watering being continued as before. The mossed seedlings are transferred from bed to bed once a week, so that any likelihood, of their roots striking the ground, is prevented. When the seedlings are 8 inches high, they are transplanted out into the forest (Black Bridge Reserve of Coonoor and Kodapamund Reserve of Ooty).

The futher tending of these young plants, is a seperate subject and need not be dealt with here. It is sufficient to say, that the Eucalyptus hard woods found in the Nilgiris—or at any rate most this day is balanced by the victory we gained on an equally important occasion—"The Inter divisional Foot-hall Match".

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II. Unveiling of the Portrait of the late Mr. M. R. Sundaram Iyer, B. A., *June 29th 1922.*

It was a very impressive ceremony. The portrait that was unveiled was a bust enlargement of one of the most popular of the College instructors, the late M. R. Sundaram Iyer. The unveiling was done by our Chief Censervator, Mr. S. Cox. The function took place in the Students' Club of the Madras Forest College in the presence of a large gathering of Forest Officers, the Principal and staff of the College and the students of both the divisions, every one standing in solemn respect.

Mr Cox, before unveiling the portrait briefly dwelt on the rare and highly trained intellect of Mr. Sundaram Iyer which, with moral qualities of an equally elevated degree, was amply displayed in Mr Sundaram Iyer's short though brilliant career in this College. He was an eminent botanist and an intrepid working plans officer. Beloved by students and staff alike, he was an ardent well wisher of the College. His loss was a great blow. May his portrait ever remind us of the keen and abiding interest that he took in the well being of the College. May it also prompt in future students the strong sense of duty and the noble endeavours to maintain the tone of the College, which were always the guiding principles of his every day life.

K. Shankaranaraina Rao,
1921-23 Division.

III Y. M. C. A. Tournament for the Father Rhondy's Shield.

On August 12th much enthusiasm was displayed in the course of a Cricket Match on the grounds of the Agricultural College, when the Forest College Eleven met Stane's School Eleven. The Forest College winning the toss, elected to bat. Though they had the misfortune to lose their best men early in the innings, they knocked up a total of 106 in two hours, after a hard fight against a fine bowling side. Stanes' school went in and when play was stopped for lunch at 1-45 p. m. they had put up a score of 25 runs for three wickets. Soon after play was resumed at 2-45 p. m. Stane's School, Eleven had the misfortune to lose their best batsman W. Banford, the score being 57 for 4. His loss proved irreparable and the rest of the side collapsed, their innings ending tamely for 72 runs. The Madras Forest College in their second innings scored 126 runs for 6 wickets, chiefly through the fine batting performance of Mr. C. C. Wilson, Mr. E. K. Krishnan, Saiyed Hadi Hussain, Jayasundara and P. T. Jayakody. They then declared their innings closed, leaving 1 hour in which to try and get their opponents out a second time. Stane's School, however, managed to play out time, their score being 40 runs for 5 wickets when play closed at 6·15 p. m. The Madras Forest College won the match by 34 runs on the first innings.

S. DORAIRAJA,
Secretary,
M. F. C. Athletic Club.

Miscellanea.

I. *Notes on a fight between the Indian Screech Owl and a Cobra.*

"Sometime ago, whilst stationed at Ferozepore, I had in my possession a pet black cobra, about five feet in length and also some young screech owls

One afternoon, when the cobra was out for exercise, on the drive of my bungalow, it crawled near to the owlets cage; suddenly a bird flew past my head and attacked the cobra, giving it a blow with its wing, the bird proved to be an adult owl.

The snake at once coiled up and raised its head at the same time expanding its hood; the owl hovered in front of the snake, but kept out of reach; whilst the snake's attention was attracted by the first owl, a second owl attacked it from behind, knocking it down to the ground. The owls then alternately attacked the snake, knocking it down each time it raised its head. After this had happened four or five times, I thought that the snake had been sufficently troubled for one day and so picked it up; on examining it I found that its lower jaw was fractured, so had to kill it. I was sorry to do this as it had been in my possession for several months and was very tame.

It might be of interest to hear whether any of the readers of the Journal have ever seen a similar encounter between a cobra and owls or other birds in the wild state".

J. E. M. Boyd, F. E. S.,
Major, R. A. M. C.

II. Hatching of Cobras (Naia Tripudians) with remarks on the Oodont, Genitalia, etc,

"On the 12th of May Mr. J. Flynn, the Honorary Director of the Karachi Museum, greeted me with the news that one of the cobras in captivity had laid eighteen eggs. Two more eggs were laid on the night of the 13th, and one on the 14th instant, making a total of twenty-one. One egg typical of the rest measured 46 × 28 mm. ($1\frac{3}{4} \times 1\frac{1}{8}$ inches). The egg is a longish oval with equally rounded poles, white in colour and the shell pliant like white kid.

Knowing from past experience the difficulties of incubating snake's eggs, I advised Mr. Flynn to place them on cotton wool in a tin box with closely fitting lid and to place a sheet of slightly damped blotting paper beneath the wool Snake's eggs require a slightly damp atmosphere or they dry up. If, on the other hand, the atmosphere is too damp they get mouldy in a day or two and decompose. Every few days the box was opened to acertain if the blotting paper needed further damping.

I opened one of the eggs on the 19th of June, 38 days (possibly 36) after deposition, and found to my great satisfaction a living female embryo within, that measured 212 mm. ($8\frac{3}{8}$ inches). The tissues were semi-translucent, and the epidermis showed no signs of pigmentation. The abdominal walls were completly sealed, and the heart was observed within, pulsating at the rate of 75 times a minute. There was a feeble attempt at movement on the part of the embryo, which was more pronounced when placed in spirit.

On the 23rd of June (42 days after deposition) I opened two eggs. One contained a male embryo 235 mm. ($9\frac{1}{2}$ inches) in length, with plum-coloured genitalia extruded. This moved very distinctly, and also exserted the tongue. There was some pigmentation of the epidermis, revealing a distinct dark variegation more evident in the anterior part of the body, and a very perfect "spectacle" mark was visible on the hood. The second embryo was a female measuring 241 mm. (9½ inches). This also moved very obviously. The heart was pulsating 74 times a minute. Investigation showed that the oodont or egg tooth was perfectly developed. It was covered by a layer of mucous membrane.

On June the 26th, (45 days after deposition) I opened two more eggs. One contained a male 235 mm. (9¼ inches) long, with the genitalia apparent, and the other a female 254 mm. (10 inches) in length. Each tried to shake itself free from the forceps used to extract them, and emited the tongue repeatedly. When placed in spirit both struggled violently but aimlessly.

On the 29th of June (48 days after deposition) I opened another egg. The little cobra 279 mm. (11 inches) long, was very lively, erected itself, protruded the tongue, and hissed at me. When consigned to spirit it swam freely, and took fifteen minutes to drown. On this same day inspection of the eggs showed that two were on the verge of hatching. One had sereral cuts in it, and an open window through which the snakeling could be seen to move. The other egg had two small cuts converging to an angle.

The 30th of June was an eventful day. The windowed egg of yesterday was in processs of hatching. The little cobra had about three inches of its length outside the shell. When touched however it withdrew completely.

On the first of July, 50 days (possibly 48) after deposition of the eggs, the first cobra of the brood hatched out. This little hatchling was extremely alert, erected itself, expanded the hood and hissed at me violently. It was observed to be very distended, and after death, the stomach was found to be full of the residual yolk of the egg, amounting to about an eggspoonful. The snakeling measured 260 mm. (10¼ inches). Many of the remaining eggs were obviously decomposed, and I extracted four males and one female varying in length from 190 to 228 mm. (7½ to 9 inches) all dead.

Only one more egg of this brood hatched out, and this happened on the 5th of July, 54 (possibly 52) days after deposition. This hatchling had also eaten the remnant of its yolk.

On the 19th of May another cobra in the Museum deposited twelve eggs, and these were placed under the same conditions as the previous clutch. On the 6th July (48 days latter) four were hatched out, and a fifth had some inches protruding from the egg. As the box had not been opened the day before, it is possible some of these hatched out on the 47th day. One of the hatchlings was dead, its naval string twisted and adherent to the yolk mass within. The others were very lively, and all tried to escape from the tin simultaneously, creating some excitement. They proved to be 256, 260, 266 and 285 mm respectively. Two had undoubtedly eaten the residual yolk, but the other two were not distended, and if they had eaten any of it had done so sparingly.

On the 7th of July the half-hatched snakeling of yesterday was free of its shell but dead, the naval string twisted and adherent to the yolk. It measured 228 mm (9 inches).

By, F. WALL, COL., I. M. S.

Extracted from: The Journal of the
Bombay Natural History Society, Vol XXVIII No. 2.

III. *Gems from the Examination hall.*

1. *Lemon*:— " A lemon is a fruit made up of a leathery epicarp and a hairy mesocarp".
2. *Asexual Reproduction:*— " Asexual reproduction is the opposite of bisexual seeds produced from a diaeceous plant by Cross pollination".
3. *Anatropous ovule:*— " An anatropous ovule is not a real ovule, but only some sort of structure resembling an ovule".
4. *Crambler (Sic) :*— Some climbers are of a rambling nature and are then called " cramblers".

   —[Although hitherto unheard of, the name "crambler" might with advantage be adopted ! —Ed.]
5. *A bridle path*:— " The Bridal (sic) path is often steep and difficult".

[The above are bonafide extracts from the answer papers of the recent examinations held at the Madras Forest College]

Reviews.

Review by, M. R. Ry, E. K. Krishnan Avl., (Instructor in Mensuration etc, to the Senior class of the Madras Forest College)

ON

" *Hand Book of field and office Problems in Forest Mensuration* "

BY,

Hugo Winkenwerder, and Elias T. Clark.

PUBLISHED BY,

Messrs. Chapman and Hall Ltd.,
London.

(PRICE 10 Sh. Net.)

This book is a practical treatise on the subject of mensuration, explaining as it does, the way to set about tackling some of the problems the Forester and praticularly the working Plans officer meets with in the field. That it is practical is its chief merit. The problems dealing with the calculation of distances by pacing, the calculation of the heights of trees, sample plot studies, and such other similar points as are likely to be useful to Indian Foresters are sure to interest those who are responsible for teaching in Indian Forestry schools. Many of the problems dealt with are, however, beyond the scope of Indian schools.

The 'get up' of the book is admirable.

* * * *

" The Survey of the Forestry journals of the world " issued as a supplement to "*Tectona*" *No. 2, Deel XV for February 1922* is a useful little pamphlet, giving in dutch and English, a Comprehensive list of the various magazines, journals, and papers edited throughout the world in connection with Forestry, Lumbering, and the Timber Trade. The details in the list include as far as possible, price place of publication, whether weekly monthly, or quarterly, and the number of the Current Volume of each publication refered to.

In the case of the *Madras Forest College Magazine*, mention of the price viz., Rs. 2—0—0 per volume of four members has been omitted.

"Ed."

Contributions to the Gass Forest Museum.

Serial No.	Contribution.	Contributor
1.	One long panel, one short panel and one block, each of (a) *Cryptomeria japonica* & (b) *Pinus langifolia*	M. R. Ry, A. Swami Kutty, Range officer, Ootacamund.
2.	Specimen of a *Tarantula*.	H. F. A. Wood, Esq., I. F S., Conservator of Forests.
3.	Two short panels of *Hardwickia binata*.	M R Ry, R. Manickam Pillai, Range officer, Dharmapuri.
4.	Two tools in use in Punjab	Mr. Hans Raj Dutt, M. F. C 1920-22 Dn.
5.	Thirty five slabs (5" × 3" × ½" each) of timber species	The Imperial Forest Economist Dehra Dun
6.	Two short panels and one block of *Cedrela Toona*	M. R. Ry, V. D. Rama lingam Pillai, Range Officer, Namakkal.
7.	Larvae and Imago of the Coleoptera "*Cryptorhyncus Magiferoe*", causing damage to mango fruits.	M. R. Ry, G. N. Subba Rao, Range officer, Alangayam.

* * * *

"The President and members of the Madras Forest College Athletic Club acknowledge with thanks, the generous donation of Rs. 19—0—0 made to the club by the members of the Coimbatore group, Southern Province Mobile Rifles, during their camp of exercise at the Forest College in July last.

Contributions to the Madras Forest College Library.

1. "Madras Forest Bulletin No. II—Sylvicultural research in Madras Presidency 1920-21"—*By, W. C. Hart.*
2. "Studies in French Forestry"—*By, Theodore S. Woolsey.*
3. "The Practice of Sylviculture"—*By, Ralph C. Hawley.*
4. "Manual of Elementary Botany for India" (Revised Edition)—*By, Rai Bahadur, K. Rangachariar, Avergal.,*
5. "Records of the Botanical survey of India," Vol. II.
6. "The Tropical Agriculturist:" Volumes XXV to XXXIII.
7. "The Indian Forester" 1894. Vol. XX
   1895. Vol. XXI
   1898. Vol. XXIV.
   1899. Vol. XXV.
8. "The Indian Forest Memoirs":
   Sylvicultural series : Vol. I Part I.
   Forest Botany series : Do.
   Economic Product series : Do. & Vol. II Part II.
   Forest Zoology series : Vol. I Part II.
   ,, II Part I.
   ,, II Part II.
   ,, III Part I.
9. Forest Bulletin No. 3. Note on the relative strength of Natural, and Plantation grown teak in Burma.—*By, R. S. Pearson, I. F. S.,*
10. Forest Bulletins Nos. 7 to 12.
11. Forest Pamphlet No. 14.—*By, R. S. Troup.*

12. Forest Pamphlet No. 15. A note on the preservation of Bamboos.—By, *E. P. Stebbing*.
13. Note on best season for Coppice fellings of teak.—By, *R. S. Hole*,
14. Note on the Bee-hole borer of Teak in Burma.—By, *E. P. Stebbing*.
15. "Notes on Arboriculture in the Bombay Presidency"
16. "Useful Insects"
17. "Household Insects"
18. "Working plan for the Central Almoora Division." 1920–21 to 1931–32.—By, *H. G. Champian*, B. A.,
19. "Timber preservation; making good savings in cost of Tie Removals—*By, F. J. Angeir*.
20. "Bee-hole borer of Teak."—*By, C F. E. Beason*, M. A., I. F. S, F. E. S,
21. "Government Securities Manual" Second Edition 1921.
22. Working Plan for the Gumsur Forests, Ganjam District.— *By, A. A. F. Minchin Esq.*, I. F. S.,
23. Working Plan of the Sal Forests, Western Circle, Assam.—*By, A. J. W. Milroy, Esq.*,
24. Forest Working Plan with maps, North Ghurwal, U. P, Parts I and II—*By, A. E. Oosmaston*.
25. Progress report of Forest Research Work in India for the year 1919–20 including Administration report of Forest Research Institute Dehra Dun.
26. "The Forests of India and the development of the Indian Forest Department"—*By, E. P. Stebbing*.
27. "Forest fires in Canada" 1917,
28. Report of the Department of Industries, Madras, for the year ending 31st March 1920.
29. Dr. Schlich's Manual of Forestry, Volumes I to V.
30. "Bengal Plants"—By, *David Prain*.
31. Burma Forest Bulletins Nos. 4 and 5.
32. A history of Birds—By, *W. P. Pycroft*.

33. " Forest Mensuration "—By, *H. H. Chapman.*

34. " Records of the Botanical Survey of India " Vol. IX No. I.

35. " The Game birds of India, Burma, and Ceylon "— By, *Home and Marshal.* Vols. I to III.

36. " The Timbers of India and Burma "—By, *Alexander L. Howard.*

37. Administration report of the Travancore Forest Department for the for the year 1906 M. E.

38. " Road Proposals " Tharawady Division—By, *H. R. Blanford.*

39. " Dominion Forestry Branch Message Code "—*W. N. Millar,*
B. S. M. F.

40. " The Fauna of British India," Vol I. By, *C. J, Graham.*

41. Straburgher's " Text Book of Botany " (Revised Edition.)

Gazette Notifications

6—6—92.

Mr. A. B. Jackson, Conservator of Forests, leave on average pay for six months from 5th April 1923 and permitted to retire from 5th October 1923. Mr. D. L. Sathe District Forest Officer, West Vellore, is granted under rule 81 of the Fundamental rules, leavel on average pay for twelve days from 10th to 21st February 1922.

27—6—22.

Mr. A. M. C. Littlewood is granted a further extension of privilege leave for two days in continuation of the extension of leave granted to him in Proceedings No. 794, Routine dated 25th May 1222, Mr. D. L. Sathe, District Forest Officer, West Vellore is appointed also as Deputy Collector in the North Arcot District.

4—7—22.

On the expiry of the leave granted to him **M. R. Ry. A Hanumanta** Rao, Avl., Extra Assistant Conservator of Forests, is posted to Chittoor, to work under the District Forest Officer.

18—7—22.

M. R. Ry. P. Govinda Menon Avl., Extra Assistant Conservator of Forests, is granted an extension of leave on half average pay for one day and extraordinary leave for three months and twenty-nine days in continuation of the leave granted to him in Chief Conservators Proceedings No. 106 Routine dated 20th January 1922.

Mr. J. W. K. Wernham, Assistant Conservator of Forests, working under the Principal, Forest College, is posted to work under the Conservator of Forests, Fifth Circle, until further orders.

Mr. S. Cox, C.I.E.. I. F. S, Chief Conservator of Forets, leave on average pay for two months with effect from 10th August 1922. Mr. H. Tireman, Conservator of Forests, sixth circle to act as chief conservator of Forests, vice Mr. S. Cox granted leave from or after 10th August 1922.

Mr. A. Wimbush, Deputy Conservator of Forests, to act as Conservator of Forests, sixth circle vice Mr. H. Tireman. In partial modification of the notification dated 1st May 1922. Mr. R. Mitchell, Extra Assistant Conservator of Foests, will be considered to have been posted as District Forest Officer, Lower Godaveri Division, with additional charge of the Upper Godaveri Division, from 17th April 1922, to 6th June 1922

1—8—22

Mr. H. P. Ward, Assistant Conservator of Forests, Ganjam, to be in charge of the Ganjam District temporarily, vice Mr. Wimbush on other duty. Mr. F. L. C. Cowley—Brown, Deputy converator of Forests, has been granted by the High Commissioner for India an extension of furlough on medical certificate for two months and fifteen days.

8—8—22

M. R. Ry. M. H. Krishnaswamy Ayyar Avl., Probationary Extra Assistant conservator of Forests, is granted an extension of leave on average pay for fifteen days in continuation of the leave for one month and fifteen days granted to him in chief conservater's Proceedings, No. 722, Routine, dated 8th May 1922.

Examinations, Jnly 1922.

The officers mentioned below have been declared by the Board to have passed in the subjects specified against their names :—

Mr. H. P. Ward, Assistant Conservator of Forests Ganjam in F. R. and O. P and A.

Mr. H. M. K. Law, Assistant Conservator of Forests, Bellary in F. R.

Mr. J. C. Wrench Do in F. R and O. P. and A.

Mr. M. Krishna Rao, Forest Ranger, Bellary District in F. R.

Mr. H. E. Brown Probationary E. A. C. South Coimbatore in F. R. F. L., and O. P. and A.

Mr. J. M. Sweet Forest Research officer, Coimbatore in O. P. and A.

Mr. Mc. D. Currie, A. C South Mangalsre in F. L. and F. R.

Mr. C. Karunakara menon, Ranger, V Grade, Bolampatti in F. L. and O. P. and A.

Mr. V. G. Darrington, A. C. Coorg, in F. L., F. R. and O. P. and A.

Mr., J. W. K. Wernham. A. C. Coimbatore in F. L., F. R & O.P. & A.

Mr. M. F. Bridge Do. in F. L ; F. R. and O.P. & A.

Mr. D. F. Stileman, A. C. Salem in Tamil Lower Standard prescribed for members of the I. C S. (Languages and Tests).

Mr. J. W. K, Wernham, A. C. Coimbatore do.

Mr. M. F. Bridge, do do

Mr. C. R. I. Williams A. C. Vizagapatam Telugu Lower.

Mr. D. Mc. D. Currie A. C South Mangalore Kanarese Lower.

Mr. J. M. Sweet. Forest Research officer, Coimbatore-Malayalam Lower.

Mr. F. D. Ardagh, Deputy Conservator of Forests, North Salem and Captain W. G. Dyson, District Forest officer, South Coimbatore in Tamil Higher Standard prescribed for members of the Indian Civil Service.

NOTE.—F. L. Forest Law, F.R. Forest Revenue, O. P. and A office Procedure and Accounts.

15—8—22.

Mr. Mr. R. B. Cornwell, Extra Assistant Conservator of Forest, leave on average pay for six months with effeet from **15th** August **1922.** or date of relief.

Mr. B. F. Rigold, Deputy Conservator of Forests, leave on half average pay for nine months and sixteen days from **17th March 1922** in lieu of the leave already granted to him.

Mr. M. C. Chandy, Extra Assistant Conservator of Forests, leave on average pay for three months with effect from date of relief.

Mr. C. M. Hodgson, Conservator of Forests, has been granted by the High Commissioner for India an extension of furlough for two months and one day.

Mr. F. L. C, Cowley-Brown, Deputy Conservator of Forsets, has been granted by the High Commissioner for India an extension of furlough on medical certificate for two months and sixteen days in lieu of the leave previously granted to him in notification No. 228 on page 736 of Part I of the Fort Saint George Gazette, dated the 1st August 1922.

Notifications relating to Range Officers.

First Circle

5—6—22.

M. R. Ry. K. Venkatesam Naidu, Probationary Ranger, Godavari Upper, is granted leave on full average salary for three months with effect from date of relief.

10—6—22.

2. M. R. Ry. I. Ramamurthi, Supernumerary Ranger is transferred from Ganjam to Kistna district for charge of the Ellore Range. He should be relieved as soon as the Vernacular Training School is closed and directed to join at once.

Second Circle.

31—5—22.

3. The extension of leave for 3 months granted in this office S. O. Nos, 16 and 23 of 1922 dated 2—3—22 and 21—3—22 to Ranger-Syed Ibrahim Albeiz will be considered to be leave on average pay under Rule 81 (b) of fundamental Rules.

2. He is further granted an extension of leave for 1 month as follows:—

From 7—5—22 to 31—5—22 on average pay, under Rule 81 (b) of Fundamental Rules and from 1—6—22 to 8—6—22 inclusive on medical certificate on half average pay "Leave not due" under Rule 81 (c) (i) of Fundamental Rules.

29—5—22.

4. Ranger C. G. Ganapathi is considered to have been on special duty in Markapur Range, Kurnool East Division. From 11—4—22 to 22—4—22.

5—6—22.

5. M. R. Ry, B. V. Jogeswara Rao, Ranger, V Grade in charge of Kalyandrug Range, Anantapur District is granted combined leave of 6 months as follows with effects from 16—5—22.

28 days	... Privilege leave.
5 months and 2 days	... Sick leave on medical Certificate on half pay (as per old leave rules).

(2) M. R. Ry, V. N. Subramanya Iyer Supernumerary Ranger is posted to the charge of Kalyandrug Range Vice No. 1 on leave or until further orders with effect from the same date.

10—6—22.

6. M. R. Ry, N. E. Kanakayya, Ranger IV grade, is granted an extension of leave already granted in this office S. O. No. 13/22 of 26—2—22,

12—7—22.

12. The extension of leave for 4 months granted to to M. R. Ry N. E. Kanakayya, Ranger IV Grade in this office Service Order No. 44 of 22 dated 10—6—22 will be leave on average pay under rule 81 (b) (II) of the Fundamental Rules.

15—7—22.

13. In modification of this office Service Order No. 47 of 22 dated 17—6—22 the following repostings of Rangers are ordered:—

(1) M. R. Ry. H. Rama Roa, Ranger II Grade on return from leave is posted to Kalyandrug Range, Anantapur District.

(2) M. R. Ry. V. N. Subrahmanyam, Supernumerary Ranger on relief by No. 1 to be on Special Duty in the same District.

(3) M. R. Ry. T. Sree-Ramulu Naidu, Supernumerary Ranger to continue in Bukkapatnam Range until further orders

18—7—22.

14. (1) M. R. Ry, O. Venkatramana Iyer, Ranger, I Grade, on return from leave on 1—8—1922 is posted to Bukkapatnam Range, Anantapur District.

(2) On relief by No. 1, Supernumerary Ranger, T. Sreeramulu Naidu is posted to Special duty in Kulligi Range, Bellary District to assist Mr. Law, Assistant Conservater of Forests, now in charge of the Range.

22—7—22.

15. (1) M. R. Ry, G. Rama Rao, Ranger, III Grade, is posted to Sundlabrahmeswaram Range on the expiry of his leave (ie. on 17—1—22) granted in this Office Service Order No. 21-22 dated 21—3—1922.

(2) M. R. Ry, B. Krishna Rao, Supernumerary Ranger, on relief by No. 1 to be on special duty in Kurnool west,

25—7—22.

16. The following reduction of Ranger is order:—
M. R. Ry, G. Rama Rao, Ranger, III Grade, is reduced to the bottom of the IV Grede (New arrangement) immediately after K. Balakrishna Rao.

1—8—22.

17. M. R. Ry, T. M. Krishnama Chari, Supernumerary Ranger, is granted an extension of leave on average pay for 2 months in continuation of the 1 month's leave already granted by the District Forest Officer, Kurnool South in his S O No. 59/22 dated 10-6-22.

Third Circle.

18. The two months Privilege leave granted to Mr. P. M. Mathew, Ranger, V grade, Sub protem with effect from 15th April 1922 in this office Service Order No. 20 of 22 dated 12th March 1922 is extended by one month.

10—5—22.

12. The leave granted to Mr. E. W. Fernandez, Ranger, VI grade, for 3 months in this office Service Order No. 25 of 1922 dated 23rd April 1922 is further extended by 18 days from 1st June 1922.
The Ranger should on expiry of the leave report himself for duty on 19th June 1922 to the District Forest Officer South Cuddapah District

10—6—22.

20. On relief by Mr. J. A. Master, Mr. Amir Padsha Sahib, Bahadur, Extra Assistant Conservator of Forests in charge of South Cuddapah is transferred to the Nellore District, under the orders of the District Forest Office, Nellore.

21—6—22.

21. Ranger, E. W. Fernandez is granted an extension of leave for 10 days on loss of pay in continuation of the leave granted to him in this office Service Order No. 37/22 dated 10th June 1922.

21—6—22.

22. M. R. Ry, C. R Rajagopalan, Ranger, VI grade on relief of Vontimitta Range, West Cuddapah District by Mr. P. M. Mathew. on return from Privilege leave is posted to the charge of Vonipenta Range, Charge North Cuddapah District.

(2) M. R. Ry, A. Muthukrishnan, Ranger, VI grade, in charge of Vonipenta Range, North Cuddapah District on relief by No. (1) is granted Privilege leave for 3 months from date of relief.

25—6—22.

23. M. R. Ry, K. Raghuraman, Supernumerary Ranger, III Circle doing duty as Junior Instructor. in the Vernacular Training School North Cuddapah District is confirmed as Ranger, VII Grade with effect from 1st June 1922.

28—6—22.

24. M. R. Ry, S. Sankara Alwa, Ranger, VII grade, South Cuddapah District is granted on extension of leave for *1* month in continuation of the leave already granted to him in this office Service Order No, 29/22 dated 11th May 1122.

29—6—22.

25. Consequent on the regarding of Rangers ordered in Chief Conservator's Proceedings No. 274 Mis. of 1922 dated 13th June 1922, the following confirmation, promotion and reversion are ordered with effect from 1st June 1922.

Name.	From.	To.
M. R. Ry, K. R. Krishna Ayyar,	III grade Subprotem,	III grade Permanent.
Mr. T. T. Ansep,	IV grade Permanent,	III grade Subprotem.
M. R. Ry, C. S. Ramanathan,	IV grade Subprotem,	V grade Permanent.

3—7—22.

26. (1) M. R. Ry, T. E. Varadachari, Ranger, IV grade South Cuddapah District on expiry of the three months leave on average salary from 15 April 1922 granted in this office Service Order No. 28/22 dated 11th May 1922 is posted to special duty under orders of the District Forest Officer, Nellore.

(2) M R. Ry, A. Ranganayakulu, Ranger, II grade Sub-protem in charge of Rajampet Range, South Cuddapah District is posted to the charge of Gudiyatham Range, North Vellore District to join forthwith after handing over charge either to Mr. E. W. Fernandez Ranger on special duty or the Range Officer, Kodur Range, as a temporary measure.

(3) M. R. Ry, G. Devanayakam Nayudu, Ranger, V grade, in charge of Gudiyatham Range, North Vellore District on relief by No. 2 is posted to the charge of Rajampet Range, South Cuddapah District to join expeditiously without availing the full joining time.

(4) M. R. Ry, T. Paramasivam Pillai, Ranger, V grade in charge of Vempalle Range, Nellore District to join forthwith after handing over charge to the Range Officer, Sanipaya Range of the same District as a temporary measure.

(5) M. R. Ry, H. Tammayya, Ranger, IV grade in charge Kavali Range, Nellore District, on relief by No. 4 is posted to the charge of Vempalle Range, West Cuddapah District to join expeditiously without availing the full joining time.

6—7—22.

27. Paragraph 1 of Office Service Order No. 42/22 dated 3rd July 1922 should read.

M. R. Ry. T. E. Varadachari Ranger IV grade South Cuddapah District on expiry of the three months leave on average salary from 15th April 1922 granted in this office Service order No. 28 of 22 dated 11th May 1922 is posted to the charge of Kanigiri Range, Nellore District.

(2) M. R. Ry., T. Subroil Nayudu Ranger I grade in charge of Kanigiri Range, Nellore District on relief by No. 1 is posted to special duty under orders of the District Forest Officer, Nellore.

21—7—22.

28. In modification of this office Service Order No. 40/22 dated 25th June 1922 the following order is issued:—
M. R. Ry. K. Raghuraman, Supernumerary Ranger, III Circle doing duty as Junior Instructor in the Varnacular Training School North Cuddapah District will be considered to be acting as Ranger, VII grade will effect from 1st June 1922.

23—7—22.

29. Mr. T. T. Ansep, Ranger, III grade Sub-protem is granted leave on average salary for 1 month with effect from date of relief of his present appointment as the Senior Instructor of the Vernacular Training School III Circle.

30—7—22.

30. M. R. Ry, K. Raghuraman, Ranger, VII grade acting on other duty as Junior Instructor, Vernacular Training School, North Cuddapah is granted leave on average salary for two months with effect from the date of relief.

30—8--22.

31. M. R. Ry, N. Rajagopaul Chetty, Probationary Ranger, on special duty, Chittoor District is transferred to West Cuddapah District for special duty under the orders of the district Forest Officer to joint, forthwith.

6—8—22.

32. M. R. Ry, S. Saukara Alwa, Ranger, VI grade permanent and reduced to VII grade as a temporary measure in this Office Service Order No, 12 of 1922 dated 5th February 1922 is granted extrordi-

nary leave without allowances for two years with effect from date of relief and with a lien on his appointment as Ranger VI grade.

Copy communicated to Ranger, M. R. Ry, S. Sankara Alwa, on special duty Rajampet Range, South Cuddapah District through the District Forest Officer, South Cuddapah for information. He must clearly understand that there is no guarantee whatever of his being appointed to any higher rank or gaade on his return whatever qualifications he may have obtained He will have no claim to any other post but that of Ranger VI grade subject to any possible order of reduction on account of past misbehaviour that may come to light.

8—8—22.

33. The following transfers of Rangers are ordered :—

Mr. T. T. Ansep Ranger III grade Sub-protem on return from the one month's leave on average salary granted in this office Service Order No. 52 of 22 dated 28th July 1922 is posted to the charge of Balapalle Range, South Cuddapah District.

(2) M. R. Ry, T. S. Narayanaswami Chetty Ranger VIII grade on relief by No. 1 is posted to special duty under the orders of the District Forest Officer South Cuddapah.

(3) M. R. Ry. T. Subroil Nayudu Ranger I grade on special duty Nellore District is posted to the charge of the Vempalle Range, West Cuddapah District to join at an early date.

(4) M. R. Ry., H. Thammiah Ranger IV grade on relief by No. 3 is posted to the charge of Vontimitta Range, West Cuddapah District to join the Range at his own expense.

(5) Mr. P. M. Mathew Ranger V grade Sub-protem in charge of Vontimitta Range, West Cuddapah District on relief by No. 4 is posted to the charge of Madanapalle Range, Chittoor District in relief of B. K. Roy, Esq., I. F. S,

Fourth Circle.

28—5—22

34. M. R. Ry. K. Jayarama Ayyar, Ranger VI grade is granted leave on average salary for 1½ months from 5-4-1922 under the Fundamental leave rules.

30—5—22.

35. The following promotions have been ordered in the class of Foresters with effect from 1st January 1922 in Conservator's S. O. No. 72 of 22 dated 4-5-1922.

		From	To.
(1)	J. S Vedanayagam	III grade permanent	II grade permanent.
(2)	T. N. Vedantharamanujam	do	II grade acting
(3)	P. S. Swaminatha Pillai	IV grade permanent	III grade permanent.
(4)	Ahmedullah Sheriff	IV grade permanent	III grade peemanent.

2—6—22.

36. M. R. Ry. R. SubramaniaAyyar, Ranger III grade, is granted, extension of leave on average pay for 5 months from 7-5-1922 in continuation of the leave already granted to him in the Service OrderNo. 59 of 1922, dated 11-4-1922

(2) Existing arrangement to continue.

3—6—22.

37. M. R. Ry. K. Jayarama Ayyar on return from leave to be Range officer, Chengam.

(2) M. R. Ry. G. N. Subba Rao B.A, to be Range officer Alangayam after handing over charge to No. 1.

(3) M. R. Ry. T. K. Parthasarathy Ayyangar to be Ranger on special duty of verification of patta sandal wood trees in the Tirupattur

Javadis after relief by No. 2. He should report himself for duty to the District Forest officer after he is relieved of Alangayam Range charge.

17—6—22.

38. (1) M.R.Ry. H. Rama Rao Ranger II Grade on return from leave on 27—6—22 is posted to the charge of Bukkapatnam Range, Anantapur District.

(2) M. R. Ry. T. Sreeramulu Naidu Supernumerary Ranger in charge of Bukkapatnam Range on relief by No. 1 to be on special duty in the same District.

19—6—22

39. M. R. Ry. V. Narayanaswami Ayyar, Ranger V grade, on return from leave, is posted to the charge of Shevaroys East Range Central Salem Division.

(2) M. R. Ry, K. P. Chathu Nayar, Ranger, V grade, on relief by No. 1, is posted to the charge of Tirupatur Range, West Vellore Division.

(3) M. R. Ry, T. D. Rajabadar Mudaliar, Ranger VI grade, on relief by No 2, is posted to special duty, Central Salem Division.

4—7—22.

40. (1) M. R. Ry., S. Nageswara Ayyer, Supernumerary Ranger on spike duty to take charge of Denkanikota Range at once from Mr. D. F. Stileman, Deputy Conservator of Forests, till M. R. Ry., S. G. Venkataramana Ayyar, Ranger VI grade joins Denkanikota on relief from the Vernacular Training School.

(2) M. R. Ry., S G. Venkataramana Ayyar, Ranger VI grade, on relief at the Vernacular Training School about 15—8—1922, is posted to Denkanikota Range charge.

15—7—22.

41. M. R. Ry, S. Ramalinga Ayyar, Supernumerary Ranger, Junior instructor, Vernacular Training School, is granted leave on average salary for two months from date of relief.

Fifth Circle.

1—6—22.

42. M. R. Ry, R. Guruswamy Ayyar, Ranger I grade, Pollachi Range, South Coimbatore Division, is transferred to Madura District, to charge of Sholavandan Range.

M. R Ry, A. P. Sreenivasa Ayyengar, Ranger VI grade, on special duty in Madura District, is transferred to, South Coimbatore District, to Charge of Pollachi Range, South Coimbatore District.

2—6—22.

43. The Absence without leave of M. R. Ry, T. V. Thayuman Mudaliar Ranger VII grade, Madura District, from 15th October 1921 to 4th May 1922 inclusive, will be treated as leave without pay.

2—6—22.

44. The following postings of Supernumerary Rangers are ordered:—

(1) M. R. Ry, T. P. Palanikumaran Pillai, transferred from the IV Circle in place of P. Sithapathy Ayyar, transferred to that Circle in Chief Censervator's Proceedings No. 819 Routine date 2nd June 1922.

(2) A. K. Kunhunni Nayar, posted to South Coimbatore District.
(3) P. A. Madhavan, do Tinnevelly District.
(4) K. O. Anandan, do Madura District.

8—7—22.

45. The leave on average pay granted to Mr. A. N, Ponniah, Ranger, VI grade, from 11th may last, in madura District Forest Officer's S. O. No. 28 of 22, dated 26th May 1922, is exended by 4 days.

Sixth Circle.

17—6—22.

46. (1) M. R. Ry, K. L. Govindakrishna Ayyar, Ranger, VI grade, on leave is premitted to cancel the unexpired portion of his leave. He is posted to Nilambur Division for timber work.

(2) Mr. S. F. Lobo, Ranger VII grade, is on return from leave posted to Palghat for charge of the Olavakode depot.

24—6—22.

47. (1) Mr. N. M. Mandanna on the expiry of his training in the Madras Forest College is posted for special duty in the Chedleth Range, Wynaad Division (This cancels his previous posting to South Managallore.)

(2) M. R. Ry K. R. Krishnan Nayar Ranger III Grade on special duty, Dhoni Palghat Division is posted to South Mangalore for special duty in connection with the selection of areas for reservation in Kasaragode.

11—7—22.

48. (1) Mr. K. C. Joseph, Ranger, V grade on Forest Research duty, Dhoni, to Palghat Division for duty under the Forest Exploitation Officer.

(2) M. R. Ry. C. Vasu, Ranger IV grade, in charge of Palghat Range, for duty under the Forest Research Officer.

13—7—22.

49. M. R. Ry, K. R. Krishna Nair, Ranger III grade, on special duty Palghat to the charge of Palghat Range.

(2) This cancels his posting to South Mangalore Division, ordered in this office S. O. No. 32 of 22 dated 24th June 1922.

Advertisements

The following is a list of specimens required for the Gass Forest Museum. The Principal will be grateful to officers who can procure such of them as are available in their division The long panels should be approximately 5 feet long, 3 inch thick and as broad as available; the blocks 1 foot × 9 inch × 3 inch and the the bark pieces about 6 inch sequare.

Species.	Long panel required	Short panel required	Block required	Bark pieces required
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Aquilaria Agallocha	1	1	1	1
Albizzia procera	1	0	0	1
Acacia dealbatta	1	1	1	1
Acrocarpus fraxinifolius	1	0	0	1
Chickrassia tabularis	1	1	1	1
Dillenia indica	1	0	1	1
Diospyros tomentosa	1	1	1	1
Diospyros paniculata	1	1	1	1
Diospyros Ebenum	0	1	0	0
Dalbergia sissoo	1	1	1	1
Erythroxylon monogynum.	1	1	1	1
Gmelina arborea	0	1	0	1
Grewia asiatica	0	1	1	1
Holoptelia integrifolia	0	0	0	1
Hydnocarpus Wightiana	1	0	0	1
Hereteria papilio	0	1	1	1
Litsaea zeylanica	1	1	1	1
Machilus macarantha	0	1	1	0
Premna tomentosa	1	1	0	1
Sterculia foetida	1	1	0	1
Sterculia villosa	1	0	0	1
Sterculia guttata	1	0	0	1
Stereospermum chelonodies.	1	0	0	1

The following numbers of the "Indian Forester" are required for the *Students'* Library. The Principal will be glad to receive any that officers can spare :—

1 Volume 1, 2 and 3 for 1875-76, 1876-77, and 1878-79.
2 Volume 6 for 1880-81.
3 Volume 14 for 1888—January, February, March, April, September, October, and December numbers.
4 Volume 15, 16, for 1889 and 1890.
5 Volume 18 for 1892 August, September, October, November
6 Volume 19 for 1893 February number.
7 Volume 26 for 1900—August number.
8 Volume 39 for the year 1913—January, April September and October Nos.

Wanted.

No. 228, Volume XII of the Standard History of the War and eight copies Gamble's "Manual of Indian Timber" Apply stating Edition, Price, Condition etc. to :

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Lawley Road P. O. Coimbatore.

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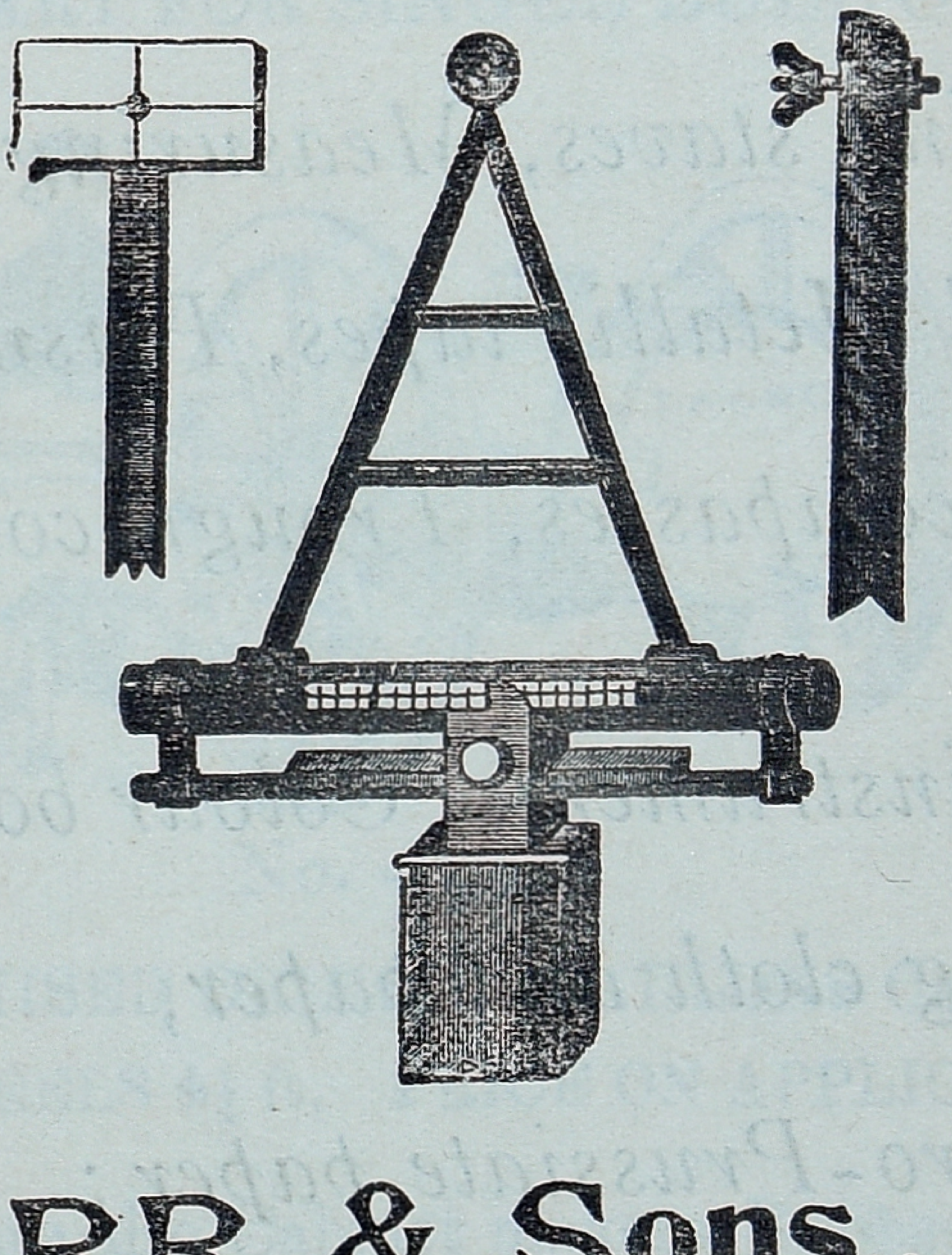

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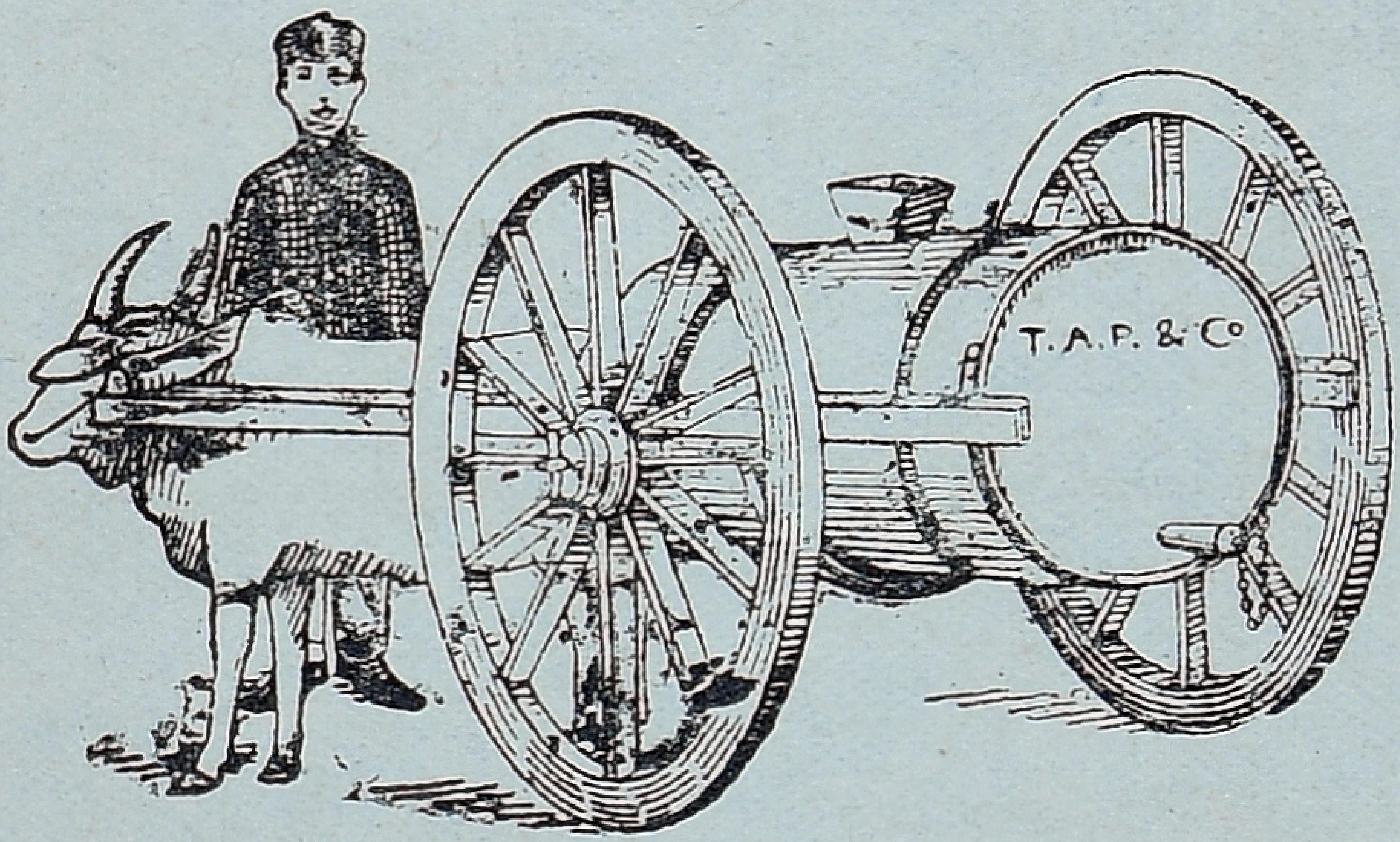

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